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GENERAL EDITOR

EDITORIAL

New Education Policy 1986

After being thoroughly discussed at all levels, the new educational policy has been finally introduced The Programme of Action which the supreme body of Indian Republic adopted has started taking its own course Still, people keep on asking "What is 'new' in the New Educational Policy ?" In fact, the major question pertains more to the 'newness' than the spelling out of the policy itself Not that this question has not been answered Right from the Prime Minister to the Minister for Human Resource Development, attempts have been made to clarify the goals. But then the newness lies in its process as well For example, never before did a Prime Minister make open references to educational reform nor ever did a PM openly seek public opinion on what direction to take with regard to education Debates on education after the 'Challenge of Education' document was issued by the then Ministry of Education and Culture were extensively organized The media was all agog with its own critiques, interviews and write-ups The entire nation joined in, as it were, If these were not new aspects of education, what else was expected The Ministry and PM's office received numerous memoranda on several aspects of education With all this in the background the 'new' policy on education was framed The role of Parliament was also fairly crucial in this regard At all stages Parliament was also involved in discussing various issues pertaining to education Thus we had our policy document. But this was not enough. For the first time in Indian history did the Parliament adopt an action plan for education. The POA, as it is cryptically called, created its own history by the direction it gave and datelines it fixed Of all the new institutions that are likely to come into being, the Ministry of Education renamed itself as the Ministry of Human Resource Development thereby heralding a major shift in the focus Indian education is likely to take. Some of the major institutions and practices which are about to be set up as a result of the POA will give further direction to our efforts Perhaps the setting-up of Navodaya Vidyalayas itself is a great beginning and significant change. The Indian Education Service, the National Testing Service, etc are a few of the other steps the MHRD has to initiate For the first time monitoring of the programme is likely to assume greater importance than it ever did

Do we still ask What is new ? 'Newness' apart, the efforts that we put into making it a success shall help the nation modern. The real question is Are we ready to move into the next century as an educated nation or an ignorant people ? Perhaps time shall give the correct answer

GENERAL EDITOR

Course Evaluation and Students' Assessment in Colleges of Education : The Nigerian Experience

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Course evaluation and students' assessment are an important part of the total process of teaching and learning in an educational institution. As Tyler (1949 : 1) suggests, any institution of learning in developing any curriculum and plan of instruction for its clientele must ask and answer some four fundamental questions. The questions are .

— What educational purposes or objectives should a school or college seek to attain ?

— What educational experiences can be provided that can likely bring about the attainment of these purposes or objectives ?

— How can these educational experiences be effectively organized ?

— How can we determine whether these purposes are being attained ?

In trying to find answers to the last question above, an educational institution is involved in a process of course evaluation and students' assessment. This process of evaluation is two-dimensional It involves formative and summative evaluations Formative evaluation tries to appraise the changes in the behaviours of the students at the different stages of the courses, while summative evaluation appraises the behaviours of the students at the end of the courses

From the evidence an institution collects of the changes in the students' behaviours through formative evaluation it would be able to find out if the courses were going on as planned Information from formative evaluation would enable the institution to diagnose individual students' problems and monitor their progress in the courses, keep accurate records of the students' abilities and render necessary assistance to individual students Feedback from formative evaluation might also help an institution to better understand and improve its curriculum, aims, approaches and materials.

Evidence from summative evaluation would help the institution to find out whether the programme had gone on as hoped, whether the actual outcomes as manifested in the students' behaviours are equal to the expected outcomes. In the end, such evidence would help the institution in reporting on the students to their sponsors and in certifying the students.

Process evaluation has been proved by research to be of tremendous importance to students' learning A report by Husen and his associates (1978 . 31) of studies on teacher-training and student-achievement in less developed countries shows that "teacher's evaluation of students is an important determinant of academic performance.. as the teachers' evaluation becomes more positive, the students' performance increases above the levels of their own self-esteem".

What this finding emphasizes is the effect of positive evaluation and assessment of students as a source of motivation for their learning. It also emphasizes the need for students' continuous evaluation and assessment as a part of teacher education programme to enable student-teachers benefit from such evaluation as students and at the same time learn approved evaluation techniques which they themselves can use as teachers later in school.

Yates (1970 66) also stresses that modes of assessment adopted in teacher education establishments should serve the purposes of affording reliable measurement of the students' progress and achievement and of exposing the student-teachers to the evaluation and assessment methods they would use later He suggests the need for colleges to adopt suitable modes of assessment to maximize the benefits to be realized from course evaluation and students' assessment

Following the above views on the importance of course evaluation and students' assessment in teachers' colleges, this study was undertaken to establish how Nigerian colleges of education carried out their own course evaluation and how students' work was assessed with a view to improving the college curricula and at the same time help equip the student-teachers adequately for the task of evaluating and assessing their own students later as teachers It is hoped that evidence from this study could serve useful lessons to teachers' colleges in other developing countries

Method of Study

This study involved survey of course evaluation and student assessment practices in seven Nigerian colleges of education selected from both the Northern and the Southern part of the country. Information for this study was derived from study of the evaluation records of the seven colleges and from interviews with the college officials.

College Evaluation and Assessment Practices

Evidence from the study of the evaluation processes used by the colleges showed that most of the colleges used some form of formative and summative evaluations to measure their students' achievements All the colleges used in the study claimed to have adopted a system of continuous evaluation and assessment of the students' work This practice, apparently, is in response to government declared policy of continuous assessment of students' work in schools and colleges

There was, however, no significant evidence of regularity in the way the colleges carried out formative evaluation and assessment of their students It became clear from the interview with the college officials that most of the colleges evaluated their students only once in the mid-semester (those who run the semester system) or term, before the end of the term or semester examinations In such circumstances, the only evidence of a student's performance before the end of the term or semester examination was the grade obtained in the mid-term or mid-semester examination

Within each college, departments tended to adopt varied rates of formative evaluation In large college departments like Education, it was found that teachers could not cope with the large student-population Consequently, such large departments could not evaluate their students several times before the end of a course Thus, formative evaluation practice in most colleges has become deficient because of insufficient attention given to it

What also became apparent from the study was that most of the colleges tended to use evidence from the few formative evaluations which they carried out mainly for formative purposes Feedback from few essays, mid-semester and end of term examinations were stored in grade forms to add up to the final end of year grades for promotion of the students There were no indications that the colleges used information from the students' formative evaluations and assessments to give individual assistance to the students. Nor were they used as bases to re-examine the contents and other aspects of the curricula of the colleges.

A formative evaluation used for formative purposes should help an individual student to evaluate himself and use it also as a basis for improving upon his performance in a course It should also help the teacher to evaluate his work—his methods, his objectives, the materials he uses and the course as a whole. The teacher also should use evidence from a student's earlier evaluation and assessment as a basis for diagnosing the student's work for further improvement For example, if a student scored a 'C' during an earlier evaluation, both the teacher and the student should use the 'C' as a basis for further improvement to score a 'B' or an 'A' in a subsequent evaluation

It appears that most colleges do not appreciate fully the importance of continuous evaluation and assessment of student-teachers for formative purposes. In a setting where examination appears to be the main drive behind students' serious application to study, dependence on the end-of-year examination by colleges might tend to make students postpone their studies to the time when examinations are due Thus, there is a need for continuous evaluation of the students Furthermore, it could be argued that if the practice of continuous evaluation does not begin well in the colleges, it might be difficult to achieve effective implementation of the practice in schools since teachers are the people to help the implementation of the practice in schools

Evaluation Instrument

Effective determination of students' achievements in the colleges for diagnostic, promotion or certification purposes does not depend only on the regularity in evaluating the students. It depends, too, to a great extent, on the type of evaluation instruments that are being used As Diessel (1976 . 1) notes, "an evaluation is both a judgement on the worth or impact of a programme, procedure, or individual and a process whereby the judgement is made" While judgement is made on the impact which college curriculum and instruction have on the students, at the same time, the instrument used for the evaluation is under test. If the instrument used in the measurement of the students' performance is not related to the type of behaviour changes that are being measured, the judgement is likely to be either faulty or limited.

In order to obtain valid evaluation evidence, the instrument used for the evaluation must itself be valid. Since evaluation involves getting evidence about behaviour changes in the students, any valid evidence about behaviour that are desired as educational objectives provides appropriate method of evaluation (Tyler opcit p. 107) The first step therefore in selecting appropriate evaluation instruments is to identify the educational objectives to be measured.

In the case of teacher education, the main educational objectives would tend to surround the task of equipping the student-teachers with their professional needs if they must be prepared to be able to behave professionally When these needs are spelt out, they are then translated into broad goals of the programme and are provided for in the curriculum. The broad goals are further broken down into specific, and operational objectives which are believed to be measurable and achievable As Yates (opcit p. 66) observes, "When the objectives of the course have been satisfactorily defined in operational terms, the kind of assessment required to determine the extent to which they have been attained will become readily identifiable"

The main teachers' needs from which colleges could derive their objectives and base their evaluation instruments upon are identified by Thompson (1985 : 1-15) They are

i *Knowledge* The students are to be equipped with general and specific knowledge related to their roles as professional teachers

ii *Skills* . The students are to acquire specific skills relating to teaching Besides, they are to be equipped with skills such as those for self-evaluation; self-study, self-analysis and assessment, leadership; communication, problem-solving and research skills

iii *Personal Characteristics* · The students are to be given opportunity to develop personal characteristics such as energy, courage, commitment, drive, persuation and patience. To function effectively too, they require the ability to share others' beliefs and attitudes; ability to attract interest, loyality and support, and be motivated and motivate others, and have credibility in the eyes of clients.

iv *Opportunity* . The students are to be given opportunity to enhance their knowledge, skills and their personal characteristics, be provided with materials and facilities and support services to practise their skills

Following Bloom's classification of educational objectives (1956 : 7), the main educational objectives derivable from those teachers' needs specific above could be classified broadly into three domains cognitive, affective and psychomotor. The cognitive domain has to do with those objectives that relate to improving the intellectual skills of the student-teachers, increasing their knowledge and ability to reason, not only recall. The affective domain has to do with objectives which relate to the development of the students' personal characteristics—their social attitudes, emotions and appreciation The psychomotor domain relates to objectives that seek to develop the students' manipulative skills, for example, carrying out practical work in the laboratories, ability to prepare and use teaching materials during micro teaching or school practice sessions. As Thompson (opcit p 5) notes, "not all the staff needs identified can be met through training and certainly not through initial training utilizing the conventional course-based model".

However, as many of the teachers' needs as could be met through initial teacher training could as well be classified into the three domains. Accordingly, evaluation instruments could be identified which would give valid evidence of students' achievements in the different domains of educational objectives.

Identified College Evaluation Instruments

Evidence from the study of evaluation instruments used in the colleges showed predominant use of paper and pencil tests. These are mainly in the forms of essay and objective tests. Paper and pencil tests are capable of providing several kinds of information about a student's performance. But information gathered through the use of this instrument alone is bound to be limited It tends to give evidence of students' performances as they relate mainly to the cognitive objectives Thus, evidence of students' performances in other areas of college objectives tend to be neglected.

Besides, study of the types of questions commonly asked in the college examinations indicated a trend towards evaluating mainly the students' low cognitive skills. Bloom (opcit p 18) divides cognitive objectives into six groups These are : knowledge, comprehension, application, analysis, synthesis and evaluation. As Nwana (1979 : 11) notes, the first two divisions could be classified as low cognitive objectives while the last four are high cognitive objectives The first two categories of cognitive objectives are thought to be low because they do not involve the learner in much intellectually demanding skills to solve problems relating to them.

There are obvious limitations in relating students' evaluation mainly to the aspects of the low cognitive outcomes One of the limitations is that the practice would not help to enhance the students' high cognitive skills development. One of the functions of evaluation, as already indicated, is to help identify areas in a student's learning where he may require assistance If the questions asked to identify students' difficulties in a course are limited to the low intellectual level only, the teachers might not easily identify the students' difficulties at the intellectual level which the questions did not cover. The students' themselves might feel satisfied to work within the limits of the examination demands. Thus, they might not have sufficient motivation to help them develop high intellectual skills.

Why Predominance of Cognitive Evaluation Instrument ?

There are several possible reasons why colleges tend to depend more on evaluation instruments which are amenable to measuring mainly the cognitive educational outcomes in the students. They are :

1. May be colleges have not fully identified the needs of the student-teachers

as those who are being prepared to become professional teachers. As indicated elsewhere (Udofot, 1985) that colleges of education in Nigeria tend to place major emphasis on the development of intellectual skills in the students. Also, there is predominance of the use of lecture and notes dictation methods in colleges. These methods tend to encourage mainly the development of low intellectual skills It could be argued that if curriculum and instruction are oriented mainly towards the development of the students' intellectual skills, there could be the tendency for college to identify easily and use predominantly instruments that could evaluate the students' cognitive achievements

Colleges should look more into the question of identification of the students' needs beyond mere acquisition of intellectual skills. When other needs of the professional teachers are fully identified and provided for in the curriculum and instruction, colleges would then specify them in behavioural and attitudinal changes which particular parts of the courses would be intended to promote. It is then that colleges would identify the kind of instrument that would measure the behavioural and attitudinal changes in the students beyond the area of cognitive objectives. In addition, improvement in the students' cognitive skills would require that colleges adopted teaching methods that would involve and help to develop students' high-level thought processes Besides, evaluation which seek to test students' cognitive achievements should provide for the six groups of cognitive objectives referred to earlier in this paper and not just some of them.

ii. Another possible reason why colleges tend to use limited evaluation instruments could be because some of them are perhaps not sufficiently familiar with the use of a wide variety of instruments. Even some of the trained teachers in the colleges might have gone through schools and colleges which depended largely on paper and pencil tests and on other instruments which measured intellectual achievements in the main.

If this is so, college teachers would tend to find it easier to use the type of evaluation instruments with which they are familiar in measuring their students' achievements.

iii. Colleges tend to place more emphasis on measuring their students' cognitive achievements than non-cognitive ones because the main examination bodies emphasize measurement of the students' cognitive achievements. In Nigeria, for example, colleges tend to follow the patterns of the major examination bodies like the West African Examinations Council (WAEC), the Royal Society of Arts (RSA) among others.

iv. Furthermore, the society itself does not seem to be interested in the results of school evaluations which measure students' non-cognitive achievements. Educationists and politicians talk glibly at conferences about the importance of developing non-cognitive skills in students by schools and colleges Nevertheless, what they seem to prefer in actual practice is how their children fare in Mathematics, English, Economics and in other school subjects Schools and colleges are praised and often raised in status on the grounds of their performance in annual examinations.

It must be stressed, however, that emphasis on cognitive education and measurement is not peculiar to Nigeria only. As Nwana (opcit p. 3) notes, "it is relevant to developing countries where misguided enthusiasm for material benefits of Western education has resulted in a lack of attention to the affective objectives of education. The result is that the schools and the colleges have produced thousands of highly lettered graduates most of whom are hardly educated in the real sense of the word"

Other Evaluation Instruments

As already indicated in this paper, instruments required for effective evaluation of students' achievements would vary according to the objectives to be measured However, colleges might find some instruments useful in measuring more than the students' cognitive achievements. These include formal interview, questionnaires and direct observation.

Formal interview, for instance, could be used to find evidence about a student's intellectual development as well as his development in personal characteristics. Effective use of this instrument would require, among other things, that the teacher prepares the interview questions ahead of time. This is to enable him select questions which relate to the objectives that are being investigated. It would also require the use of language within the range of students' understanding.

The teacher who carries out the interview would need to maintain rapport with the students at the interview. The atmosphere for the interview would need to be relaxed to allow for a free flow of information from the students. True evidence of students' behaviours might result more in an atmosphere that is not tense and examination-like

Furthermore, there must be a prepared schedule for recording scores on the information to be obtained from the students during the interview A systematic system of recording of students' scores is necessary for uniformity and to allow for comparability of a student's performance from time to time.

The questionnaire is like the interview. Like the latter, the former consists of a list of questions related to the aspects of students' behaviours which are to be investigated. The difference between the two techniques is that in the interview the teacher expects the student to give his responses orally. In the questionnaire, the student is expected to give written responses. Also in the questionnaire the teacher has no opportunity to probe a student's responses. This weakness, as Sawin (1969 : 116) suggests, can sometimes, be countered by conducting a discussion of the questionnaire results with the individual or perhaps with the class. In using the questionnaire to find evidence about students' behaviour, systematic records of students' performance must also be kept.

Direct observation as a technique for evaluating students' performance requires that the teacher sets tasks for the students. The kinds of tasks set must be such that would enable the students manifest the attributes which the teacher wants to measure. The characteristics of the students to be looked for would have to be spelt out to guide the teacher look for them as the students perform the tasks. Also there must be an established scale for rating the performance.

It must be acknowledged, however, that the use of direct observation, formal interview, questionnaire and other evaluation techniques that would allow for more comprehensive assessment of the students' achievements is not easy. Those instruments would require time to prepare and efforts to administer. Effective use of those instruments would therefore call for ingenuity on the side of the teachers. It would also require determination by college officials to break the monotony of the paper and pencil examinations which have tended to predominate college evaluation process so far.

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Futurology and Educational Technology

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EDUCATIONAL technology, as a philosophy, advocates a systems approach to educational planning, designing of instructional systems, managing educational and training enterprises in a scientific, productive and accountable manner; and as an approach it draws upon the physical and material sciences. Broadly understood, the concept of educational technology connotes both technology of education and technology in education, the latter signifying the use of an increasingly wide range of media and methods for mounting instructional programmes.

The extent to which technology can be brought to bear on the instructional approaches is almost directly decided by the nature and extent, range and sophistication, and form and orientation of advances in the fields of communication, information processing, computing, and other modes of information-delivery/information-dissemination devices.

Futurology, contrary to the populist misconception, is not astrology; and nor is it any 'escape' exercise to promote revelry in illusions. It is a reasonable search for new ideas towards developing preparedness for and providing alternatives to our needs. To the lay man who is apt to look for the 'sensational', it may signify 'mental peeps into the ken of the future'

Futurology today is a kind of international movement, with over fifty countries and over a thousand organizations doing research in this area—appraising the country's present resources against the 'projected' demands, both qualitatively and quantitatively, in several areas of human activity. It embraces principally three major branches—technology forecasting, social forecasting or social prognostics, and technology assessment It is increasingly recognized as an academic pursuit of inter-disciplinary orientation with immense relevance to current decision-making processes The Department of Science and Technology of the Government of India is promoting futurology exercises in a sustained manner

Futurology is also known as "prognostics" in the USSR, "futuribles" in France, and "futures research" and "futurism" in Western Europe and America

The vision of an educational technologist should perforce be futuristic in its orientation since by professional commitment he is expected to contribute to the maximizing of the outcomes of educational endeavour through facilitating resource to newer and more effective methods and media, largely resulting from the advances in the fields of science and technology The futuristic perspective of an educational technologist is necessarily intertwined with a conscious reckoning of the futuristic possibilities on all such fronts as have functional relevance and thematic implications to the educational enterprise—at all levels, in all forms, and through all modes, either directly or indirectly.

The Overall Perspectives

Not more than a decade and a half ahead lies the turn of the 21st century, which the present generation is certain to witness. The vision of the 21st century is an admixture of both challenges and opportunities. The world population will have by then doubled, if the present growth rates continue unchecked. And, more than half the world's population will be living in Asia, with the tally for India being around 950 million.

The tremendous pressure on population would have brought in its wake unprecedented demands on the resources; but the developments in science and technology would have vastly changed the strength and resilience of the society to withstand the emerging demands

Agriculture, industries, trade and commerce, transport and communication would all have been vastly improved. Power generation, for instance, would be through a series of fast breeder reactors, with the first 500 MW fast breeder reactor scheduled to be commissioned by 1995 at Tarapore. The 14 MW FBTR at Kalpakkam in Tamil Nadu, the first in the series, went 'critical' just a few days back, on October 18, making India the seventh nation in the world to operate a FBR. Energy will be generated from ocean bed also.

Productivity in agriculture through mechanized farming, improved seeds and fertilisers will wipe out hunger and destitution; while on the industrial front, automation and newer management approaches will usher in an era of plenty.

Telecommuting, by which all work could be done from home with a computer network, might change our work-culture and duty-patterns. Japan is, in fact, already planning to introduce telecommuting in a big way Computers of the future will be used in banking, industries, reservations, medical diagnosis, decision-making, office-automation, etc Ministers, secretaries and other officials will have been trained in computer uses. The UPTRON has already been engaged by the Government of Uttar Pradesh to impart training to its ministers and secretaries.

Office-automation would have become a fait accompli.

The country would have progressed immensely in the computer technology; and will be exporting computer software at the level of about Rs 30,000 crore, if the present trend continues.

There will be a more intense race between the computer—perhaps, the fifth generation computer, and Miss Shakuntala Devi known for her extraordinary computing skills as the 'human computer'. Right in 1980, she has gone on the 'Guinness' record for outpacing a computer.

Computer Play Centres will have been established in every big city to serve as permanent display centres for school children. The Maharashtra Government is already reported to have decided to launch a pilot project costing about Rs. 10 lakh for a network of such centres at Divisional headquarters, with technical assistance from MELTRON.

The in-thing in space technology today being the 'Direct Broadcasting System' by means of which video and radio programmes can be beamed directly via satellites to receiving sets without using any retransmitting earth station, pioneering experiments with which were conducted in India as early as in 1975 under the famous 'Satellite Instructional Television Experiment' (SITE) benefitting 2400 villages scattered over six States, will have become commoner and still more versatile under more imaginative use-conditions.

While developments in the fields of agriculture and industry, might indirectly influence the resource-generation for education, advances in fields like information processing, communication, etc. bear closer relevance to educational processes.

Informatics

Owing to the discernibly striking advances in the last three decades in the field of information handling, access to information will vastly improve, totally transforming the functional profile of library and documentation centre. The information scientists are forecasting rapid decline of the artifacts—particularly the printed publication as the primary device for storage and transmittal of recorded knowledge, and their replacement with data generated from many sources and presented in many formats, all through a variety of electronic devices.

An electronic age in publishing is on the anvil. The beginnings were noticed in the early 60's when computers were first used to drive photocomposition devices leading to the use of computers as printing devices. Machine-readable data-bases generated by the computerised publishing operations have facilitated 'searching' activities and 'Selective Dissemination of Information' (SDI).

Developments in microelectronics will serve to bring out "paperless books"—electronic books—of all types—novels, journals, text and reference books. Unlike the printed books, the electronic book stores the textual and graphic information as electronic signals in high density 'Read Only Memories' (ROMs) and displays the required information on a flat screen Liquid Crystal Display (LCD). Measuring not more than the size of a pocket calculator and operating on batteries, it is going to be a 'miniaturisation marvel' unbelievably convenient to handle. The electronic book with its many advantages like less volume, freedom from storage and maintenance problems, low cost, 'interaction' with the reader through voice output of the stored information will be of great use to the blind who would then give up the conventional, cumbersome "braille book".

Modern technology will have offered totally new forms of information storage and retrieval, at least in three distinct ways. First, new ways to store information compactly and cheaply—photographic microforms of various kinds, magnetic storage on tapes and discs, optical storage and video discs and holographic memories Secondly, new mechanisms to manipulate, scan and search the stored information—the large scale computer, the minicomputer, the microprocessor and related devices. Thirdly, new facilities for cheap and rapid transmission of information over long distances—telecommunication systems and networks There will be a commonplace "on demand" publishing, with the manuscripts being held in an electronic disc, and the exact number of copies being printed as and when require

On the Home Front

Children will have access to new information technology and more sophisticated devices and systems. The primary learning device at home will be a screen resembling a TV set incorporating TV, teletext, videotext, videodisc or microcomputer

There will be electronic readers about 2" by 3" and a quarter of an inch thick, powered by solar cells, and with an optical character recognition unit on top and a voice synthesiser. A two-year old will run it over the printed page of a nursery book so that it will 'read aloud' to the child the nursery rhymes printed therein.

Robots will be strutting about in homes, doing most of the domestic chores. All homes will have been covered by both the TV and Radio. Parents who could afford would have bought home computers; and those who could not would have formed groups for joint investment in computers for installation in commonplaces The home computer will be hooked on to the TV; and will also link the home by telephone with the outside world—the bank, the library, the university, hospital, travel agent, departmental store and office.

Marriage of biology and electronics will have given rise to the emergence of bionics, with bionic nurses, viz. robots in hospitals, walking gently along the wards and in the operation theatres. The medical robots will have an arm, with a shoulder, elbow, wrist and finger joints controlled through 12 separate microcomputers by a combination of spoken commands and head movements. Optical sensors and touch sensors could bathe, feed and groom patients, particularly paraplegics.

Computer games like "Death Star", "Double Agent", "Time Machine" and so on will be played by children on their personal home computers, which will fundamentally change the form and content of their informal education and educative entertainment patterns.

On the Formal Education Front

The CLASS project in the country would have been extended greatly to bring about an impressive 'computer culture'. Computers will be used by educational and research institutions, among others, for (i) language study, (ii) documentation of information in all Indian languages, and (iii) the use of all Indian scripts in computers. The Computer Centre at the Tamil University in Thanjavur in Tamil Nadu has already developed a Tamil Word Processor.

Computer-Aided Instruction (CAI) and Educational TV will have entered both formal and non-formal education sectors in a truly big way, reducing in effect, educational wastage, enlarging coverage and promoting a valuable awareness among the population.

Computers will be used to learn composition and creative writing; and also to carry out simulations for research students Creative uses of even the existing media, as for example, 'Radiovision' will emerge.

Conclusion

Educational technology implies, among others, imaginative use of newer and emerging communication media for transmission of information and skills. Impressive strides in communication technology and informatics are forecast in futurology studies, which, on becoming realities, are pretty sure to usher in an era of education, instruction and training markedly more effective than the present one.

Advances in communication technology notwithstanding, improvements in the educational enterprise depend upon the sensitivity and resourcefulness of the educational technologist so that the 'advances' could be profitably harnessed for educational purposes. The future of the world of education holds both challenges and opportunities.

Making Correspondence Education Effective

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THE complexities of life in the modern world demand that education should be a continuous process characterized by a life-long exposure to the widening bounds o knowledge, increasing mastery over the natural environment, and an adaptation to the rapidly changing social environment. This demand can be met only by correspondence education Its need exists in every society and every country, and most of all in developing countries. In such countries, the system of formal education has left untouched a large segment of the population, whose educational needs, including the elements of literacy, have to be met through programmes of correspondence education. Moreover, in these countries there is an under-functioning of large sections of population in every facet of life, private or public, social or economic, agricultural or industrial, and in as much as there is an educational component underlying such under-functioning it becomes a task for correspondence education to take effective action to remedy it. The purpose of this education is to fulfil the needs of society for the education of its citizens throughout their life span, enabling them to realize their full potential as individuals and to contribute effectively to social and economic development.

Distinct Characteristics

Before we think of ways and means of making correspondence education more effective, let us discuss some of its distinct characteristics which need to be taken care of because it is these characteristics which need to be strengthened before we look forward to the modern gadgets like TV in a bid to make this education effective. The basic philosophy underlying correspondence education is simple and is no alien to Indian tradition It is . Education is not a once for all process, no one is too old to learn, no one is too big or too small to learn, no one is too knowledgeable to learn, inability to be in full-time residence at the campus should be no bar to learning and the adult is conscious of the cost of not learning and even if he is not, he could be made so The history of correspondence technology is as old as the history of postal services. Teaching cannot be confined to formal education When a father or mother writes a letter full of advice and suggestions to his or her erring son or daughter, it is also teaching through correspondence. Classic examples are Plato's epistles to Dionysius, letters of Elder Pliny to the Younger Pliny, letters of the Late Prime Minister Jawaharlal Nehru to his daughter Indira Gandhi

Correspondence education is a method of instruction in which correspondence is the means of communication between the student and the teacher. Instruction is a conscious, deliberate effort to affect or alter an individual's environment so as to cause a change in his behaviour or make him behave or perform and do so under specified conditions. We subject a learner to lectures or class discussions so that he can pass an examination or become a better citizen or can appreciate art under given conditions. To this definition of education if we add that this deliberate effort must be carried out by means of correspondence, it becomes correspondence instruction. Although most correspondence instruction is carried out through mail, this is only one of the several possible means.

Another distinction is that correspondence instruction is only that instruction which is offered through correspondence, that requires interaction between the student and the instructing institution. Thus a programme in which a student receives a lesson and is required to submit a response for evaluation by the instructional body will only be called correspondence instruction.

Five specific components of correspondence instruction are : specially prepared materials, written in self-explanatory fashion and arranged in a series of lessons, supplementary printed and other materials, a series of exercises to be worked out by the student, evaluation of these exercises by a competent instructor with the student being informed of the evaluation, and final examination over the whole course. It is these components which need to considerably improved upon in the first instance.

Thus student-teacher interaction is the most necessary part of the instructional process. In fact many problems, advantages, and failings of correspondence instruction can be directly related to it. Its technical name is feedback. It takes place in two directions : the instructional institution first supplies the specially prepared materials to the student who in turn provides feedback for the instructor by turning in work-sheets, problems, quizzes, or other kinds of written assignments. These responses allow the teacher to evaluate the student's progress and also to evaluate the effectiveness of the instructional materials used in the first stage of instruction. The instructor reads and evaluates the student responses and provides feedback to the student in the form of written commentary, quiz scores, further study suggestions, encouragement, and the like. Sometimes machines or computers are used instead of instructors, most frequently in cases in which large numbers of lessons must be examined This feedback is the sine qua non of correspondence education and this has to be made effective most of all.

Thus correspondence instruction functions as a method of instruction. It is essentially a method There is a popular misconception that correspondence instruction is different in kind from resident or institutional instruction. This simply is not so. Correspondence instruction shares the same goals and the same educational philosophy as many different methods of instruction. It differs from them primarily in the means, in the method itself. Correspondence instruction and other methods are not mutually exclusive or necessarily inimical.

Resident instruction refers to that instructional method which relies on the student's participation in an institution's resident (intramural) programme. This participation in the programme of a new environment will demand certain behaviour. Lectures, seminars, laboratory sessions and traditional classes are all familiar components of the resident method of instruction. In resident instruction, an institution is a particular supplier of instruction; in correspondence instruction, an institution will be any organization which sets out, perhaps among any activities, to supply correspondence instruction. Extension courses refer to courses offered by a resident institution for students not in residence. The institution extends its instructional function beyond its walls. Continuing or correspondence education indicates instruction offered primarily to those who cannot participate in a full-time instructional programme.

That correspondence instruction makes an important contribution to educational instruction today is shown by the fact that at one time three million students were enrolled in correspondence education as against five million seeking education in resident colleges and universities in the United States. In fact correspondence instruction responds to specific needs that regular education cannot meet.

Correspondence education originated in 1870 in the United States when a rapidly increasing population, industrial revolution and the increasing role of women in society exerted pressure on conventional education New needs for both general education and technical training added to the strain. Correspondence instruction arose to meet this need. Three different kinds of demands on the country's instructional resources stimulated the rise of correspondence instruction. The first was educational which aimed at producing a literate individual, aware of the problems of his society and prepared to deal with them. The second was training which was meant to produce highly trained individuals with a specific proficiency which is a key to production and profit. The third was general which intended to satisfy an individual's curiosity or impart him a desired or a new skill. These demands implied that education must reach all and sundry. Equality of educational opportunity, that the democratic principle warranted, gave further fillip to these demands. It was desired that education must be extended to everyone, no matter how humble his birth, no matter where he may live, and no matter what his reasonable aspirations may be. This requirement seemed beyond the capabilities of the existing system. Correspondence instruction was one solution. It helped to serve the educational needs of all those who were unable to take advantage of resident education. It helped professional associations, big business, industrial concerns, government and the armed forces to fill their demands for trained or educated personnel.

It helped universities to offer instruction to individuals who were unable to participate in other educational programmes or who chose to satisfy their own needs or wishes through correspondence study. Acceptance of this instruction was slow. Started by the daughter of a Harvard University Professor for a small group of followers in 1873, this instruction now reaches over four million students every year in the USA.

Ways and Means to Make it More Effective

The acceptance and stature of correspondence education depends upon several factors, chief amongst which are financing a correspondence instruction venture, selecting a staff, attracting or screening out students, creating a favourable image and operating successfully within institutional limitations.

Teaching by correspondence requires highly specialized skills. The distance between the student and the teacher makes special demands on correspondence staff. Consequently a skilled staff is of critical importance.

The correspondence director needs special qualities of foresight. He must predict the behaviour of a group of students he never sees and probably little knows about. He must plan courses and specify course objectives for a heterogeneous and geographically diffused group. He must be able to run his programme on a tight budget and be good at devising alternative solutions when the best appears to be too expensive. He may have to develop bargaining skill to convince his superior of the value of correspondence programmes and to persuade competent teachers to devote some of their time to correspondence instruction. He must also have the ingenuity to overcome any obstacles that might prevent his programme from achieving the objectives set for it.

The lesson writer must be sensitive to his special task In correspondence instruction, the burden of the actual teaching function rests squarely on the written work. The writer must be able to prepare clear and authoritative texts and syllabi; ambiguity, poor exposition, or inaccurate material can be disastrous when there is no teacher present to modify, clarify the written text. The expert lesson writer can predict students' questions and answer them in the text. The correspondence teacher must be as knowledgeable as the resident teacher. But he must be able to evaluate a student's progress from a limited written response and determine what additional help the student may need. Often the student is taught by at least two teachers, the lesson writer who provides course materials and the teacher who receives the student's work for evaluation, who gives through his comments on it whatever further teaching is necessary.

If correspondence courses are to stimulate creativity, teachers of such courses must be carefully selected. In addition to being better informed and more highly educated than the students, they must be at least as intelligent, perceptive, and capable of creativity as the brightest of their students. As some of the students are likely to be very bright indeed, it is essential that the teachers be of very superior intellect. The papers submitted by students should be read by highly qualified teachers and not by sub-professional assistants

Correspondence instruction can perform certain instructional activities better than traditional methods. Secondly, it can instruct in some ways, places, and situations in which no other method can instruct at all. In some ways, correspondence method has definite advantages which benefit the student, the institution and the entire educational system, i.e., it is more (1) flexible, (2) economical, (3) psychologically sound, and (4) instructionally effective than other methods.

Flexibility · In resident instruction the student is to conform to certain institutional demands He must be at a specified place at a specified time in order to participate in the instructional process The intellectual level and the rate of advancement of the course are arbitrarily fixed Correspondence instruction is much more flexible, permitting the student to find his own level, satisfy his own instructional needs at his own pace He can choose when and where to study Instruction reaches him at the farthest place wherever he is tied or even when he moves from place to place. Not all students learn at the same rate In this education we meet the demands of each student. Waste resulting from holding a fast learner back because class cannot keep up with him or from foolishly trying to push a slow learner beyond his capabilities, as happens in resident education, is avoided.

Even the individual does not learn all subjects or all lessons at an equal pace. In this method he is free to devote as much time to each lesson as he needs to understand it. The fast and the slow learners can determine their own working speed

Economy : Costs of buildings and maintaining resident facilities are avoided, though other costs for supplying quality materials, superior teaching are sometime exhorbitant. Operating costs, though more than in resident instruction, are chiefly towards providing quality instruction. which is satisfying. Economy of time is also there—the student may work whenever he wants, fitting time in around other activities, putting period of convalescence (after illness) to good use; housewives with small children may continue their studies while raising a family, studying in between their other occupations

In corresponding programmes employees can complete education or training without leaving the job. Dual goals of continued production and continued training are compatible In the USSR, workers satisfy their own instructional needs and help the economy develop at the same time.

Psychological Soundness : It is well suited to the psychological needs of the former drop-out and to the radically different needs of the aggressive seeker of knowledge. The drop-out or flunk out from college desires denied academic studying and regaion confidence. College does not take him back or he cannot overcome the feeling of failure associated with resident instruction and does not want to enter college

There is no class with which to compete and no classroom to evoke memories of past failures The correspondent student can choose his study environment and work quietly in his own way. He can prove himself by performing well.

Many students have a great fear of embarrassment or failure which keeps them away from performing well in resident classes. For fear of making an error, a student may never participate in class discussions and thus never get adequate feedback in his performance. Correspondence education largely avoids this fear of failure. No one but the student need know how well or how poorly he does. The student is encouraged to study for his own benefit, not to impress others. A student who does well on correspondence programmes displays a certain tenacity and ability to follow through that stand as good recommendations of the student's ability to work.

Instructional Effectiveness

This is due to :

Highly motivated students who will learn in almost any instructional situation. Best available method in many particular situations. Rigour of independent study and the necessity for putting questions and answers into writing make it most effective. Such practice forces the student to clarify his own thinking and do a more thorough job when studying by correspondence.

A few other instructional advantages make it still more effective :

1. The student must express himself at every point in the course; more thorough preparation is needed throughout the course.
2. The student does his own research and checks his own work; this requires initiative and persistence and results in self-discipline and self-reliance.
3 The student has a greater opportunity to present the subject-matter fully and to write understandingly, which requires clear thinking.
4. The students in doubt are more willing and ready to ask questions as they go along.

Correspondence education has a bright future because the educational requirements of the country cannot be met without it.

Shortcomings

Lack of personal contact among teachers and students is a towering obstacle to effective instruction in correspondence; working at a distance, slow student-teacher interaction, lack of counselling and guidance, no witnessing of performance (both students and teachers learn from watching each other); inflexibility in revising courses; inability to regulate the student's behaviour and the quality of his work from a distance; maintaining standards are some other shortcomings.

Learning by correspondence courses is basically self-study and requires a measure of self-discipline and skills in learning which the ordinary workers or students (in correspondence education) do not possess.

Some more drawbacks of correspondence education are . Dependence on written word which is the only means of communication; written words are inflexible and often dull, even inadequate; aural or visual learning is denied; looking at examples or listening to explanations is not there; there is no imaginative exploration because of rigid written syllabus; no laboratories, libraries, gymnasiums, theatres, or rooms for tranquil studies. Hence the importance need to make postal teaching foolproof

Personal contact programmes in which teachers meet students, go over the entire courses and remove students' difficulties are most vital. These are of enormous benefit to the correspondence student. Occasional week-end seminars and mutual visits lead to visual and aural contacts that are extremely useful.

Institutions imparting corresponding education should consider population explosion and the changes in the structure of knowledge. Both will have profound influence in the shape of instruction in the future. Correspondence instruction does have an important role to play in providing instruction to a population with varied demands and varied capabilities. New media need to be introduced in correspondence education to meet new challenges in education. They include audio-tape, films and slides, television, video tape, programmed instruction, computer-assisted instruction, telephone and radio.

Educational Television Programmes for the Age-group 9-11 Years : An Appraisal

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NOW-A-DAYS Television is considered a popular and potential medium of instruction in almost all the countries of the world. It has excelled other modern teaching aids by virtue of its both audio and video potentialities. It is enriched with unlimited resources of visual aids which are generally not available in schools, particularly rural primary schools. It also provides instruction in a number of areas which is generally not possible on the part of the ordinary classroom teacher. So both for quantitative expansion and qualitative development of education, at every level and for all categories of learners, TV has a unique contribution to make. Further, the visual input provided through TV undeniably makes a deep impression on the minds of the children. It motivates, creates interest and draws attention of children towards learning.

Need of the Study

Realising the importance of TV instruction in the future social structure, the Government of India introduced TV in the field of school education during the early 1960's on a small scale. In March 1961 it was introduced in the field of primary education for the first time by the Delhi Television Centre. In the year 1975 a remarkable project, namely Satellite Instructional Television Training was started by the Union Government for one year covering about 2400 rural primary schools in six States of the country.

Following the encouraging results of the SITE project, the Government started telecasting educational television programmes through INSAT-1B from 15 October 1983. The programmes which are presently being telecast for rural primary school children are mainly for general enrichment. Much importance is now being given to the production aspects of these programmes in order to make them suitable for rural audience.

It was, therefore, considered necessary to provide feedback to the producers of ETV programmes regarding different aspects of these programmes through empirical studies. Hence, the present study.

Objectives

The present study was undertaken with the following objectives :

1. To point out the suitable and unsuitable aspects of the ETV programmes.
2. To find out the adequacy and appropriateness of ETV programmes.
3. To suggest steps for removing the defects.

Scope

Since ETV programmes for elementary school children are being produced both by CIET (NCERT) and Doordarshan Kendra (Cuttack), the investigators took interest in studying the ETV programmes of these production centres, telecast during the month of January 1986. The study is exclusively based on the programmes meant for the children in the age-group 9 to 11, of Orissa.

A sample of 18 programmes (Table 1) was taken for this study.

TABLE 1

Sl No.	Title of the Programme	Day	Date	Production Centre
1	Itikili Mitikili	Thursday	2.1.86	DDK, Cuttack
2.	Ayatana	Friday	3.1.86	CIET, NCERT
3.	Doorata	-do-	-do-	-do-
4.	Ama Biswa	Monday	6.1.86	DDK, Cuttack
5	Ama Rajyar Aranya Sampad	Tuesday	9.1.86	-do-
6.	Akalabya	Thursday	9.1.86	-do-
7.	Bapujee	Tuesday	14.1.86	-do-
8	Mana Chitra Kan ?	Wednesday	15.1.86	CIET, NCERT
9.	Sajiba O'Nirjiba	Thursday	16.1.86	DDK, Cuttack
10.	Byayana (Part III)	Monday	20.1.86	-do-
11.	Hariki Jitiba	Wednesday	22.1.86	CIET, NCERT
12.	Adha Chantha	Friday	24.1.86	-do-
13.	Darpana	-do-	-do-	-do-
14.	Budhia Kia ?	Monday	27.1.86	DDK, Cuttack
15.	Ojana Mapa	Wednesday	29.1.86	CIET, NCERT
16.	Golak	-do-	-do-	-do-
17.	Kia, Kana, Kahinki	Thursday	30.1.86	DDK, Cuttack
18.	Naksa Ankana	Friday	31.1.86	CIET, NCERT

It is evident from Table 1 that out of the total 18 programmes taken for study, nine programmes belong to DDK (Cuttack) and nine to CIET (NCERT).

Limitation

The study is confined to the ETV programmes meant for the children of 9 to 11 years of age of Orissa. Again, the study is based on the direct observation of the investigators of the out-of-school situations, because of certain unavoidable difficulties like failure of electricity and disorder of TV sets. But the investigators made occasional discussions with the school teachers regarding the programmes

Methodology

In this study Direct Observation Method was used for the collection of data. The observation schedule prepared by the investigators was in keeping with the objectives, content, format, visuals, voice, language, pace, synchronization, etc. of the ETV programmes

Analysis and Interpretation

The data collected about the ETV programmes are analysed and interpreted on the following lines.

Objectives

Since the investigators found that no programme brief was provided to the TV schools before telecasting the programmes, no clear-cut information was made available regarding the instructional objectives of the programmes. That is why the investigators assessed the ETV programmes in the light of some assumed objectives like knowledge, understanding and application. To what extent the assumed objectives have been emphasized in the ETV programmes is shown in Table 2.

TABLE 2

Distribution of ETV Programmes According to Their Emphasis on Different Assumed Instructional Objectives

Extent of Emphasis / Objectives	No of Programmes to a Great Extent	Percentage of Programmes	To some Extent	%	Not at All	%
1	2	3	4	5	6	7
1. Knowledge	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18	100	Nil	—	Nil	—
2. Understanding	2, 3, 4, 8, 9, 12, 13, 15, 16, 18	56	1, 5, 6, 7, 10, 11, 14, 17	44	Nil	—
3. Application	2, 3, 8, 9, 13, 15, 16, 18	44	1, 4, 5, 7, 10, 12, 14	39	6, 11	17

Table 2 shows that all the programmes emphasized 'knowledge' objective to a great extent As regards 'understanding' objective, 56% of the programmes emphasized this objective to a great extent and 44% to some extent. 'Application' objective was emphasized to a great extent in 44% of the programmes, to some extent, in 39% of the programmes and not at all in 17% of the programmes.

It is evident from the above analysis that all the programmes were mainly knowledge-oriented, though other objectives were not neglected entirely.

Content

Content plays an important role in making ETV programmes relevant and effective. It fulfils the needs of the children and helps in bringing desirable changes in their behaviour.

Table 3 gives a clear idea regarding the coverage of content areas in the ETV programmes taken for the present study.

It is observed from the table that most of the school subjects received due weightage in the ETV programmes, excepting a few like Literature, Arts and Aesthetics, etc.

Adequacy of Content

Regarding the adequacy of content it is found that about 22% of the programmes were over-loaded with content and in about 78%, the content was adequate.

Format

In the present study seven different formats were used for the programmes. Table 5 shows the distribution of ETV programmes according to different formats.

TABLE 3

Distribution of ETV Programmes According to the Content Areas

Content Areas	No of Programmes	Percentage
Folk Culture	1, 6, 11	17
Arithmatic	2, 3, 12, 15, 16	28
General Science	4, 9, 13	17
Geography	5, 8, 18	17
History and Civics	7	5
Physical Education	10	5
General Knowledge	14, 17	11

TABLE 4

Distribution of ETV Programmes According to the Adequacy of Content

	Over-loaded	Adequate	Inadequate
No. of programmes	1, 5, 7, 17	2, 3, 4, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18	Nil
%	22%	78%	Nil

TABLE 5

Distribution of ETV Programmes According to Different Formats

Sl. No.	Format	No. of Programmes	Percentage
1	Feature	8, 11, 12, 13, 15. 16, 18	40
2.	Discussion with Demonstration	4, 9	11
3.	Narration with Aids	5, 7, 14	17
4.	Dramatization	1, 6	11
5.	Cartoon with Animation	2, 3	11
6.	Demonstration	10	5
7	Quiz	17	5

It is evident from the above table that Feature format was adopted in 40%, Discussion with Demonstration in 11%, Narration with Aids in 17%, Dramatization in 11%, Cartoon with Animation in 11%, Demonstration and Quiz in 5% of the programmes.

This shows that Feature format found suitable and attractive at the primary level is given much importance in most of the programmes Dramatization is not given due weightage though it is felt appealing and attractive and as reported by some school teachers other formats like Narration with Aids, Quiz and Discussion formats were found unattractive and ineffective in maintaining discipline So more emphasis should be given to Feature and Dramatization formats.

Visuals (Quantitative)

Visuals, the main elements in a format, help to a great extent in making a programme effective and attention-drawing The visuals used in the ETV programmes taken for the study are given in Table 6.

TABLE 6

Sl. No.	Visuals	To a Great Extent		To Some Extent		Not at All	
		No. of Prog.	%	No. of Prog.	%	No. of Prog.	%
1.	Activities	1, 2, 3, 4, 6, 12, 13, 14, 15, 16, 18	61	8, 9, 10, 11	22	5, 7, 17	17
2.	Two-Dimensional	14	5	4, 5, 7, 8, 9, 12, 17, 18	44	1, 2, 3, 6, 10, 11, 13, 15, 16	51
3.	Three-Dimensional	4	5	5, 9, 12, 13	22	1, 2, 3, 6, 7, 8, 10, 11, 14, 15, 16, 17, 18	73
4.	Real Objects	1, 2, 3, 8, 11, 12, 13, 14, 15, 16	55	5, 6, 7, 9, 17	28	4, 10, 18	17

It is evident that Activities and Real Objects were used widely in a number of ETV programmes, whereas two-dimensional and three-dimensional aids were not used in most of the programmes.

Visuals (Qualitative)

As it is important to use an adequate number of visuals in programmes, it is also equally important to give attention to the use of these visuals in an effective way. Otherwise they will not serve the purpose to the desirable extent. Hence the need of qualitative assessment of visuals. Table 7 gives a clear picture about the qualitative assessment of ETV programmes.

TABLE 7

Distribution of ETV Programmes According to the Use of Visuals

Sl.	Fully		Partially		Not at All	
No.	No. of Programmes	%	No. of Programmes	%	No. of Programmes	%
1. Clear	2, 3, 4, 5, 8, 9, 10, 12, 13, 15, 16, 18	67	1, 6, 11, 14, 17	28	7	5
2. Lively	4, 5, 6, 8, 9, 10, 12, 13, 14, 15, 18	61	1, 2, 3, 11, 16, 17	34	7	5

The above table indicates that in about 67% programmes the visuals were fully clear, and in 61% of programmes these were lively. In 28% of the programmes these were partially lively.

Voice

Voice plays an important role in ETV programmes. Unless voice is clear and its speed normal, it will make the entire programme ineffective and fruitless.

As regards the voice of the ETV programmes taken for study it is found that in about 78% of the programmes voice was distinct and in 22% of the programmes it was partially distinct. Similarly, in 89% of the programmes it was found at a normal speed and in about 11% of the programmes it was a little bit quicker. In this regard Table 8 gives a clear picture.

TABLE 8

Distribution of ETV Programmes According to the Clarity and Speed of Voice

	Clarity of Voice			Speed of Voice		
	Distinct	Partially Distinct	Indistinct	Quick	Normal	Slow
No. of Programme	2, 3, 4, 5, 7, 9, 10, 11, 12, 13, 14, 15, 16, 18	1, 6, 8, 17	Nil	7, 17	1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18	Nil
% of Programme	78	22		11	89	

Language

As regards the language aspect of the ETV programmes, it is found from the present study that in about 17% of the programmes two languages (Hindi and Oriya) were used. But in other programmes only one language (Oriya) was used.

Pace

Except 17% of the programmes (No. 1,7, 17) which were presented a bit speedly, all other programmes were presented quite normally.

Synchronization

In about 11% of the programmes (No. 8, 11) synchronization defect was evident.

Disturbances During Presentation

While collecting the data the investigators found transmission disturbances at the time of presentation of more than 50% of the programmes.

Findings

The main findings of the present study are given below :

1. No clear-cut prior information has been provided to the ETV schools regarding the programmes and their objectives
2. As regards realization of the objectives it is found that knowledge objective has been realized in all the programmes and in most of the programmes understanding and application objectives have been realized to a great extent
3. Except a few content areas like Literature and Arts and Aesthetics, all other content areas have been given due weightage.
4. Some of the programmes (about 22%) were found over-loaded with content.
5. Feature and dramatization formats were found more interesting and attractive, whereas narration with aids, quiz and discussion formats were found ineffective.
6. In most of the programmes different visuals have received their due place. But as regards the qualitative aspects of the visuals in some of the programmes (about 28%) these were found partially clear and indistinct and in about 34% of the programmes these were found partially lively.
7. In some of the programmes (about 22%) voice was found partially clear.
8. In about 17% of the programmes the use of two languages (Hindi and Oriya) was also found unsuitable.
9. Regarding the pace of the programmes it was found that about 17% the programmes were presented a bit speedy.
10. Synchronization defect was observed in about 17% of the programmes.
11. Transmission disturbances were observed during the telecast of more than 50% of the programmes.

Suggestions

The following suggestions may be given in the light of the major findings :

1. Programme briefs and other necessary information regarding different programmes should be provided to each ETV school before telecast of the programmes.

2. Adequate attention should be given to the production of content areas like literature, arts and aesthetics.
3. Attempts should be made to avoid over-loading of content.
4. More emphasis should be given to feature and dramatization formats.
5. Attempts should be made to make the visuals clear, distinct and lively.
6. Clarity and speed of voice should be made appropriate.
7. Transmission disturbances should be reduced to the minimum.

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Evaluation of Adult Education Programme

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LACK of adequate evaluation base has been one of the major causes for the failure of the past adult education programmes. The on-going and future adult education programmes should not suffer with this handicap. The programme designers and functionaries should not think of evaluation per se as it acts as an effective tool to build up the programme itself Evaluation is to be carried out to judge the worth of the programme, to identify the deficiencies and to take up proper steps for the improvement of the programme. Evaluation of the adult education programme does not merely mean evaluating the knowledge and skills acquired by adults after attending the centres over a period of time (i.e. summative evaluation) but many things else. It is a scientific area of thinking and the programme designers and functionaries (policy-makers, co-ordinators, project officers, supervisors, instructors) shall have to pay necessary attention to it.

The adult education programme needs to be conducted in the best manner possible and evaluation is to be carried out to deal with such aspects before the implementation and during the operation of the programme (i.e.

formative evaluation). The higher the stress on formative evaluation the richer will be the success of the programme A wide range of questions need to be answered through evaluating the adult education programme and some of them are as follows.

1. What do the adult learners want to accomplish through the programme ?
2. What is the relative effectiveness of various teaching methods ?
3 Is the curriculum relevant to the needs of the adults attending the adult education centre ?
4. Why the problems of absenteeism and drop-outs are occuring ?
5. Are the timings of the centre convenient to adults to attend ?
6 Is it possible to cover the syllabus within time span of ten months ?
7. Is it practically possible to teach 30 adults at a time in the centre ?
8. Is there any change in the behaviour and outlook of adults after attending the adult education centre ?
9. What criteria have to be adopted to select instructors, supervisors and other programme functionaries ?
10. Are the adults able to utilize the knowledge and skills gained in their day-to-day life ?
11. Is there any need to change the mode and duration of the training programmes conducted for different functionaries (Instructors, Supervisors, Project Officers, College Programme Officers, etc.) ?
12. What are the other factors that are significantly affecting the performance of the adult education centres and up to what extent ? (These factors may include the age, occupation, self-concept, achievement motivation, reading, interests of adults, instructor's educational background, sociability, his attitude towards adult education, the attitudes of other functionaries towards the programme, and the community support for the programme as a whole).
13. Is this programme worth implementing ?

Evaluating the adult education programme is not as easy as evaluating the value of an ornament, or evaluating the answer sheets of the entrance test or public examination by sitting within the four walls. It is practically a hidden field-oriented experiment conducted on a section of people. Evaluation in this field is generally carried out by the outsiders or by those who are actually involved in the programme. It is always desirable to select those who are actually involved in the programme as they will be knowing about the objectives, inputs, processes and outcomes of the programme.

Anyhow, the evaluation team should have a clear-cut understanding of the objectives of evaluating the programme. Such objectives may include the evaluation of the following aspects :

1. Measuring the achievement of adult learners' skills (reading, writing, arithmatic) and knowledge (vocational, health, animal husbandry, employment, development programmes, rights and responsibilities, etc.) acquired in the centre.
2. Measuring aptitudes, attitudes, aspirations, educational needs, intelligence, personality, etc.
3. Assessing the effectiveness of teaching/learning material (primers, charts, newspapers, magazines, their size,

colour, letters, suitability to the adults, etc).

4 Assessing the teaching/learning process.

5. Assessing the contribution and involvement of the staff :

   a. Instructional staff (teachers, supervisors)

   b. Supportive staff (project officers, programme officers, principals, co-ordinators, record-keepers, directors, etc.).

6. Community support (village/local leaders, cooperative agencies, educational and philosophical societies, and staff of the development departments like Health, Agriculture, Animal Husbandry, Industries, etc)

7 Availability of financial and material resources, central, state governments, local bodies and state resource centres, regional resource centres, adult education programme units respectively

8. Physical atmosphere of the centre (location, lighting, nearness of the centre, cleanliness of the centre, type of centre (mixed/male/female), etc.).

9. Assessing the duration of the programme.

10. Chalking out the cost-benefit analysis of the programme (financial costs vs economic, social, political and cultural benefits).

The above assessments need to be done when the programme is actually running and when the programme is actually over. The evaluators should be trained by the different resource units (central, state, regional, etc.) as to how to evaluate the said aspects before and after the programme and as to how they have to write the evaluation reports.

Evaluation in adult education should be always participative and the team of evaluators should take it as a sportive activity. They should never cause fear in the minds of the adult education participants, instructional staff, administrative staff and community but have to make them feel open, easy and happy to provide the actual information. This is essentially an important aspect that has to be borne in mind by the resource units while training the evaluators.

The programme designers and functionaries should have a clear understanding of evaluation. Evaluators occupy a prominent position in the field of adult education. They have to provide highly scientific, factual, impartial, and objective-oriented data to take suitable measures to modify and improve the objectives, policies, methodologies and supportive base to conduct the programme successfully. Evaluation of the adult education programme is neither the ending nor the beginning. It is a systematic and continuous process to build up the programme.

New Englishes

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THIS article falls into two parts : 1. Need and significance of English, and 2. New Englishes, i.e. Indian (non-native) and British, American, Australian (native), etc.

NEED AND SIGNIFICANCE OF ENGLISH

Christian missionaries paved the way for the establishment of the British Empire and the British Empire in turn paved the path for the spread of English. English is still continuing and expanding further even in those countries which had the colonial past. English was used within 100 miles of London about 400 years ago. Later, Sir Thomas Roe, Ambassador of James I, presented his credentials in English to Jahangir in 1615. Then there was a small English speaking community in India, particularly at Surat and Delhi where the East India Company had already established factories and diplomatic relationship. The present status of English in India has to be viewed against this background.

At the moment it is most widely dispersed and the most effective medium of science and technology. It has the highest political and economic influence in the world today. It is used either as mother-tongue or second or foreign language. As mother-tongue it is spoken by about 30 crores of people in

England, America, Canada, Australia, New Zealand, the Caribbean, South Africa and in some pockets of Rhodesia, Kenya and India (50 lakh Anglo-Indians speak English in India). It is used as second language by India, Pakistan, Nigeria, Burma, Thailand, South Korea, etc. Japan and Germany use it for commercial advertisements as foreign language. As second language it is used within the country. As foreign language it is used for communication across frontiers

Other languages are also used as foreign language but English is the most widely used foreign language in the world. Moreover, the total number of hours devoted to the teaching of English are higher than any subject in the world Now, no senior post is offered to any one, who is deficient in English, in world organisations It is taught as foreign language in many European countries also, like Russia and France. It is taught from 3rd standard in China now. Over 20 lakh boys learn English in France. Eighty per cent of Secondary School boys learn English and only 16 per cent study German in Germany. Eighty per cent French scholars working in French literature used books in English and 25 per cent published their research papers also in English Even in Italy a Physics Journal, 'Nuovo Cimento', announced to admit research papers even in other languages in 1950. Within 20 years all the papers, which were received, were only in English. In Germany also the papers rose from 2 to 50 per cent in English in a journal, namely, "Physikali Schezeitsachrift" In another research journal, "Astronomy and Astrophysics", French scientists contribute articles only in English. Moreover, "Agenee Internationale de 'I' Energic Atomique, Nuclear Fusion" is a journal subsidized by France but most articles contributed to it are in English. In fact, the scientists of the world desire to share their researches today through English that is a world language The need for and importance of English has to be measured today in terms of international values. The world is shrinking as time and space are being conquered through science and technology that has made international contact more convenient and easier English is international of all languages and it is a window on the world today.

Unfortunately, however, our knowledge of English in India is slipping fast between our fingers and we do not realize its importance in the world perspective and so our students are playing fast and loose with the English language. If it is allowed to continue, the national growth may be retarded.

India believes in secularism. English is a secular language So it fulfils a national need. Other languages are not so neutral Latin, Arabic, Pali, Prakrit, Hebrew, Sanskrit and Hindi are languages of Catholics, Muslims, Buddhists, Jainees, Jews and Hindus, respectively, to a large extent Furthermore, Rajaji felt that India might be disintegrated, if English would be replaced by Hindi. Jawaharlal also said that it would amount to closing a window on the world of technology...'by discarding English. Translation cannot take its place English holds the key to all knowledge'. All educational commissions and committees emphasized its need and importance.

In India Hindi was supposed to replace English within 15 years, when the constitution was enforced in 1950. But it is still continuing, and has consolidated its position further. It has replaced Hindi instead. It has happened not because of linguistic and aesthetic considerations, but the reasons are political, economic and demographic. English and French are two official languages of the UNO. English and Hindi are the associate languages of India English is used as official language in four states and eight union territories of India and also partly in those states where regional languages are state languages. It is one of the

82 mother-tongues (Census 1971). Twenty-five million people know some amount of English in India Yet not more than three per cent are involved in it. Moreover, Indians like to read newspapers in English, for example, an English daily, 'The Times of India' has the highest circulation Most professional journals are also published in English. Forty-three per cent of the total books published, are in English in India and she stands third in the world in terms of titles published in English after the UK and the USA. Most Parliament proceedings and the proceedings of All India gatherings, seminars, etc. are also conducted through it The number of students, who took MA exam. in English, was only next to Hindi in 1975. English has competition with Hindi; other regional languages of India are far behind. In 1961, the number of students appearing in MA exam. in English was 5,192 but in 1971 it rose to 11,404 and the number of Ph.D. students also swelled from 146 to 453 within ten years (Chawla, 1980). Moreover, English has been recommended as one of the languages to be taught at the secondary school level, according to the three-language formula (Kothari Education Commission 1964-66). 'It is still a medium of instruction for approximately half of its total higher education' (Randolph Quirk's A Grammar of Contemporary English). It is still a medium of instruction in some institutions, and mostly used in mails and radio broadcast, not only in India but in the whole world.

It promotes trade and commerce, international understanding and diplomatic relationship and leads to crossfertilization of culture So it is a political, economic, administrative and cultural necessity for India. Moreover, it has a prestige value in social scale.

Those who use English in India are Anglo-Indians, educated Indians, businessmen, bankers, industrialists, salesmen, administrators, doctors, judges, engineers and everyone involved in communication across frontiers

This is what Indians do with English. It enables us not only to read Shakespeare and Milton but also to assemble radio and motor parts, to earn bread and to sell manufactured goods and to communicate widely. It plays an important role in social and cultural setting, and meets the demands of fast changing economic and industrial patterns of living. It not only represents interactions with new ideas, new attitudes, and new interpretations but also refers to the interplay of patterns of thinking and feeling as they obtain in the East and in the West.

In order to meet these needs, a new distinct variety of English developed in India, known as Indian English. Words of different languages were mixed, adopted and absorbed and there was also creolization, code-switching and mixing, nativization and pidginization. Pidginized Portuguese, Persian, Sanskrit, Hindi and words of Indian languages were used in English.

Such words are not easily intelligible to Englishmen.

INDIAN ENGLISH

There are lots of such words in Indian English, such as, ayah, almirah, cobra, caste, peon and mosquito (Portuguese origin); betel, bamboo, mango, curry, chit, tessore, and Jodhpurs (Pidginized Portuguese); mamlatdar, zamindar, mufassil chowkidar, sepoy and bandobast (administrative terms of Arabic and Persian origin). Moreover, pyjama, polo, compound, godown, bandicoot, bakshish and cashy are words of Asian origin. Lots of other words of uncertain origin were also used in Indian English, such as, posh, blightly, multifataway, kedgeree, gymkhana, devakhana, four-twenty, portal, chota hazari (morning tea) octoroi, toll, khansama, lakh, lathi charge, gherao, collector, commissioner, kanungo, coolie, bearer in a hotel, cashier, childlifter, fooding charge, suiting and shirting, etc.

Moreover, different words and expressions are used in Indian English from those of British English, for example : (in the pair the first is Indian and the second British), pulse/lintel, curd/yoghurt, pant/trousers, trousers/pyjama, coat/jacket, sweater/jersy or pullover, superb/fantastic, two cups of tea/two teas. take leave/to go on leave, to take tea/to drink tea, to take lunch/to eat lunch, to take breakfast/to have breakfast, to take recourse/to dictionary, to take permission/to obtain permission, to engage class/to take class, my Mrs. has come/my wife has come, a peg of whisky/a large whisky, black tea/tea without sugar and milk, colony/estate, compounder/pharmacist, medical shop/chemist's shop, conveyance/transport, quarter plate/side plate, taxi/cab, seats/places, double roti/bread, black money/illegal earning, load shedding/power cut, two spoons/two spoonfuls, butler English/broken English, speed breaker/sleeping policeman, chaste English/excellent English, respected sir/sir, why you are late ?/why are you late ?, to commit mistake/to make error, to commit blunder/to make grave error, dearness allowance/cost of living allowance, meet/see, demise/death, derecognition/withdrawal of recognition, full boiled eggs/hard boiled eggs, postal/postage, wheat complexion/olive complexion, motor-cade/car cade, I am late, am not I ?/I'm late, aren't I ?, theft in a shop/shop-lifting, I am going/I am going to go, all right/O.K., what type of man is he !/what on earth is this man!, please sit down, I am coming back very soon/sit down, please, I shan't be too long/would you mind sitting down?, alighted/got down, boarded/got into, emplaned/flew, Mrs /Mrs, Dr./Dr, Ph.D./Ph D, M.A./MA, U.N E S.C O./Unesco, S D. Sinha/SD Sinha

Idioms also differ, for example, he gave him right and left (he scolded him severely), a wolf is standing at the door (some trouble is ahead of you), I don't like the manager standing on my head (I don't like the manager breathing down the neck), stop eating my head (stop being a damned nuisance), talk of the devil and he will appear (talk of the angel and you hear its wing), he has always a soft corner for me (he has always a soft spot for me), the Prime Minister is all in all in the Cabinet (It's used in India in the sense of being most powerful but in England this phrase means 'on the whole').

The grammar of Indian and British English is also not exactly the same, for example, I advise you to keep him at an arm's length/I advise you to keep him at arm's length, I bought it on the black market (archaic in British English), I will have to burn the candle at its both ends/I'll have to burn the candle at both ends, he reached at 4 O'clock/he reached Ranchi at 4 O'clock, he wanted that you should do this/he wanted you to do it, he assured that he would help him/he assured him to help, he contacted at our office/contacted us at our office, accomodations/accommodation, activities/activity, affections/affection, agitations/agitation, alternatives/alternative, arrangements/arrangement, baggages/baggage, brutalities/brutality, charities/charity, contacts/contact, correspondences/correspondence. Furthermore, we make errors in the use of articles, tenses and subject-verb agreement also.

The words are used as plural in Indian English if they are uncountable, which is absolutely incorrect according to British Standard. Prepositions are also used unnecessarily and incorrectely, as in : he wrote out a letter, he leaked out the story. In usage also there is a difference. for example, he has got lectureship/he has been appointed lecturer (he has got lecturership or he has been appointed as a lecturer is not used in British English), he is a professor of English/he is professor of English. Moreover, in the deistic tense the verb in the reported speech is not changed to the past tense in British English, for example, he said he likes biscuit. In Indian English, 'he said that he liked biscuit'. However, on the BBC and All India Radio there is a tendency now not to use the past tense form of verb in the reported speech, if it is used from the speaker's point of view.

Furthermore, in social and cultural expressions also there is a lot of difference. For example, 'what would you like to drink'—'anything' (Indian reply)/'tea', 'coffee' (specific), (British reply). 'Good morning' is used up to lunch time around 1 pm in England but in India 'good evening' is used after office-hours, that is, after 5 pm in England but in India it is used earlier also. In India, the day begins with the sunrise and in England after midnight so 'good morning' is used after sunrise in India Moreover, 'What's your good name ?' is a very common expression in India Here 'good' is a culture-bound honorific expression. 'Respected sir' is also used to show modesty that is ingrained in Indian culture. Take some more examples to show how expression differs due to cultural difference. In India ambiguous reply is heard at times, if a question is put, like this : 'Is he your son ?' or 'Is it your house ?' It's your son or it's your house' meaning thereby 'he is my son' or 'It's my son'. It's just a rendering of Hindi or Urdu polite expression. If one says 'my' here it shows impoliteness. In England a similar polite expression is used, as in : 'If I were you I would have done it within a fortnight' Such expressions are imperative. Likewise, 'Can I help you ?' is not a question but an offer. 'May I congratulate you' is used without a question-mark as a statement. 'Yes'—answer would be ludicrous here. Moreover, it is customary to thank in England but in India one doesn't thank very superior or inferior people There are lots of such culture-bound expressions in all languages. The frequency of 'thank you', 'excuse me', 'please', 'would you mind' and 'lovely' is less in Indian English but very high in British English. They are social lubricants and soothing graces in English In this context Bhartrihari is worth quoting. He said in his 'Vakyapadiya' :

> वाक्यात् प्रकरणाद् अर्थाद् औचित्या देश कालत.
> शब्दार्था. प्रविष्यन्ते न रूपदेवा केवलात्

Meaning of word depends not only on form and context but also on time and space. It's a formula of socio-linguistics : some more examples would illustrate the point at issue. If one would say, 'salt, please' at the dining table it is imperative. If the same thing is said in a shop it has a different meaning. It means that one wants to buy it. Another interesting social expression is 'interdining' referring to eating together by members of different castes as part of the campaign against cast distinction. 'Plate meal' and 'shoeheat' are also typically Indian social expressions. Moreover, 'thank you' is not used appropriately in India, maintaining distinction between observing formality and expressing real gratitude. It is discourteous to express glide up instead of glide down. Further, one would say in India, 'Please do this work' instead of saying 'I will be grateful, if you would do this work'. It shows that English is a more polite and democratic language. There is only one word 'you' for 'tu', 'tum' and 'aap' of Hindi and 'ta', 'timi', 'tapain', 'hujur', or 'sarkar' of Nepali, showing different social strata and degrees of respect. Such delicate shades of human feelings and manners are expressed apart from expressing social (caste) hierarchy and stratification. Moreover, there is only one word 'cousin' or 'sister-in-law' for expressing different social relationships, such as 'mausera', 'chachera' 'phuphera', 'sautela', 'mamera', 'bhai', 'sali', 'bhabhi', 'gotani', etc. These social relations are not as important in

English society as in India There is a cultural and social demand to be more specific and one has to use these Hindi words while speaking English in India Sometimes meaning is extended and at times it is restricted due to varying situations. For example, the word 'bathroom' means a room without a tub—a latrine in India Some new words have been also coined to meet such a situation, such as, 'co-brother' for 'sautela bhai' and 'co-sister' for 'sauteli bahan' and also some abusive terms, used by labourers, like 'rape-mother', 'rape-sister', 'sister-sleeper' (Mulkraj Anand). Lots of words from Indian languages are used while speaking English in Indian contexts in order to fulfil such social needs, for example, 'faldan', 'tilak', 'gharana' (family stock), 'lakh', 'crore', 'donga' (second marriage), etc. Moreover, new words, like 'freeship', 'batch-mate', 'delink', etc. have been coined.

One can conclude from these examples that there is also a social and cultural need for Indian English.

Cultural and social awareness has been brought about through creative writing in English.

Aurobindo's 'Life Divine' and 'Savitri' are Indian masterpieces of English. Sir Francis Young Husband hailed 'Life Divine' as one of the greatest books of the century and Sir Herbert Read's comment on 'Savitri' is worth quoting : 'It's a remarkable achievement by any standard and I am full of amazement that someone, not of English origin, should have such a wonderful command not only of our language, as such, but of its skilful elaboration into poetic diction of such high quality'. When a 'mantra' is received :

'Its message enters the blind brain,
And keeps in the dim ignorant cells its sound
He feels a wideness and becomes a power,
All knowledge rushes on him like a sea,
Transmuted by the white spiritual ray.
He walks in naked heaven of joy and calm,
Sees the god-face and hears transcendent
speech'.

—SAVITRI

Aurobindo is not alone in the field of Indo-Anglian writing. R.K. Narayan and hosts of writers writing in English on Indian theme used such words and expressions, which are typically Indian, and they have been written in excellent English. They are deviants, still they are masterpieces.

Such writing remind one of Kamla Das :

'The language that I speak
Becomes mine, its distortions, its
queerness,
All mine, mine alone,
It's half English, half Indian
Funny perhaps, but it is honest,
It is as human as I am,
Don't you see ?'

Yes, Indians eat this language with bread and drink it with beer, although it is a language of the ruling class, not of the ruled, nor of the masses. It goes on creating a new class of rulers, who have been at the helm of affairs for over two centuries in India. It is a language of intellectual make-up, Sanskrit binds India culturally. So does English politically.

These are some of the features of Indian English. American English is an easy transition from Indian English.

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Regional Patterns of Literacy in Karnataka : An Analysis of 1981 Census

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THE extent of literacy among the population of a country reflects its educational and cultural level and indireclty the stage of its development. Similarly, variations in literacy rates in constituting real units of a country are a reflection of the regional backwardness or advancement of these areas.

The developing countries of the world are characterized not only by low literacy rates but also by a great disparity in the literacy rates between urban and rural populations, between males and females, and between the young and the aged. Equally striking are regional disparities in literacy within the districts.

Literacy : The Concept

The U.N. Population Commission, in an effort to improve the comparability of census results in all countries, has recommended that literacy should be defined as 'ability both to read and to write a simple message in any language'[1]. An expert committee of Standardization of Educational Statistics, convened by UNESCO in November 1951, recommended the following definition of literacy : A person is considered literate, who can both read with understanding and write a short simple statement on his every day life[2].

Prof. Gray while discussing the values

inherent in literacy, defined a person as a functionally literate when he has acquired the knowledge and skills in reading and writing which enable him to engage effectively in all those activities in which literacy is normally assumed in his culture or group[3]. Based on this, Prof Gray indicated some of the ways in which a literate person has an advantage over one who is not.

The identification of literates or illiterates based on the criterion of literacy adopted is quite difficult. The type of error inherent in all census enumeration is due to the definition of literacy which tends to vary with the mentality of the enumerator[4]

The countries differ in ascertaining the extent of illiteracy and literacy. The details cannot be spelt out here in this paper[5]. In India, for census purposes, a person was treated as a literate if he could both read and write with understanding in any language No formal education nor any minimum educational standards were required. All children of the age of 4 years or less were treated as illiterate, even though the child may have been going to school and may have picked up reading and writing a few words. The ability to read and write in any language was applied as the only criterion for determination of literacy*.

Education as an Indicator of Development

Development is measured by the level of living of a country or region. Bennett in 1937 was pioneer in building up indices of development. Literacy is one of the indicators used by him. Further, the social welfare department of the United Nations used social indicators as a counter-weight to per capita income. Once again a unitary index of the level of living was made by Professor Jan Dresnowski at UNIISD. In all these education including literacy is considered as an indicator of development.

In India, the Planning Commission as early as 1956 felt the need for identifying economic backwardness and hence evolved certain criteria The Planning Commission which followed in the second, third, fourth and fifth Five-year plans used several indicators of backwardness and regional disparities in development wherein time and again literacy is considered as one of the indicators. Even in the sixth and seventh plans literacy was one of the educational indicators.

Many studies have been carried out in this area. Studies by Parulekar Kingsly Davis (1951) ; Schwartzberg, J.W. (1961) ; Gosal, G.S. (1964) ; Naik, J.P. (1975) ; Rudolph and Rudolph (1972) ; Ranjit Tirtha (1966); and Gopal Krishnan (1978) have analysed the patterns and trends in literacy in India. They have also examined the spatial differentials in literacy within the states, within the districts and at taluka levels.

The purpose of the present paper is to describe and interpret regional literacy differentials and also to analyse the relationship between literacy and the indicators of socio-economic development. The unit of study is districts in Karnataka. The year chosen is 1981.

The General Picture

Of the 37,043,451 persons in the state, 14,228,947 persons are literate, which means that 38.41 per cent of the total population is literate. There has been steady rise in the proportion of literates in the state over seven decades. The same trend has been maintained for males and females. However, there is enormous increase in the formal literacy rates. There is pronounced increase both for the country as a whole and for Karnataka in particular. Of the total literates, 9,171,677 were male and 5,057,270 female, which in terms of percentages are 48.61 male literates and 27.83 female literates. The same figures for rural and urban areas are 41.88 and 64.69 for males and 20.04 and 47.52 for females, respectively. District-wise analysis reveals that four districts have high rates of literacy, seven districts have medium rates of literacy and eight districts have lower rates of literacy. These are shown in Table 1. Amongst the districts, Dakshina Kannada has occupied the highest place 53 6 per cent (i.e. first place) whereas Raichur district has secured the last place recording low rate of literacy (24.92 per cent).

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* Census of India 1981, Series-9, Karnataka, Paper-1 of 1981, Provisional Population Totals, p. 64.

TABLE 1

District-wise Literacy Rates—1981

Districts	Literacy Rates					
	Rural			Urban		
	M	F	T	M	F	T
Bangalore	41.81	19.04	30.70	67.99	54.46	61.59
Belgaum	43.06	17.91	30.69	66.44	45.10	56.17
Bellary	35.09	12.58	23.93	53.53	32.85	43.45
Bidar	33.95	9.85	22.02	60.09	35 92	48.52
Bijapur	40.15	13.60	26.91	60.06	33.91	47.31
Chickmagalur	49.30	30.21	39.93	66 95	52.83	60.24
Chitradurga	43 58	21.06	32.58	64.53	47.24	56.32
Dakshina Kannada	57.42	40.15	48.47	74.15	60.39	67.22
Dharwad	49.30	22.99	36 42	62.51	42.15	52.70
Gulbarga	29 86	8.29	19.10	57 17	32.63	45.30
Hassan	45.06	21.95	33.51	66.15	52.57	59.65
Kodagu	53 30	40.61	47.12	70.69	58.51	64.97
Kolar	37 72	15.06	26.53	65.65	49.69	57.86
Mandya	37.10	16.10	26.77	56.80	40.54	49.00
Mysore	30.71	12.92	22.01	63.46	49.98	56.93
Raichur	32.27	10.00	21.16	51.92	28.80	40.64
Shimoga	48.95	28.41	38.86	67.21	53.02	60.40
Tumkur	45.11	25.94	35.68	67.18	51.42	59.66
Uttara Kannada	52 36	33.31	43.00	69.64	53.20	61.68
KARNATAKA	41.88	20.04	31.08	64.69	47.52	56.44

Urban-rural Differentials

Urban-rural differences are essentially due to the differential rates of changes occuring in towns and villages The pace of the progress depends on the intensity of interaction between rural and urban areas. It is often believed that literacy originates in urban places and diffuses subsequently into rural areas. Urban influence may play an indirect role by stimulating diversification of rural economy. A diversified economic base in villages generally accelerates the progress of literacy.

The analysis of the urban-rural differentials* in literacy rates revealed that there was a wide gap. Table 2 presents district-wise urban-rural literacy rates along with differential index. The index ranged from 0.35 to 1 11. Out of the 19 districts, eight districts could be classified as average, three districts as low and only two districts as high indices of urban-rural differentials.

TABLE 2

District-wise Urban-rural Literacy Along the Differential Index

District	Urban	Rural	Total	Differential Index
Bangalore	61.59	30.70	50.69	0.61
Belgaum	56.17	30.69	36.44	0.70
Bellary	43 45	23.93	30.37	0.64
Bidar	48.52	22.02	26.76	0.99
Bijapur	47.31	26.91	31.85	0.64
Chickmagalur	60.24	39.93	43.51	0.47
Chitradurga	56 32	32.58	38.17	0.62
Mysore	56.93	22.01	31.58	1.11
Raichur	40.64	21.16	24.92	0.78
Shimoga	60.40	38.86	44.39	0.49
Tunkur	59.66	35.68	38.98	0.62
Uttara Kannada	61.68	43.00	47.74	0.39
KARNATAKA	56.44	31.08	38 41	0.66

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* The index of urban-rural differential in literacy was computed using the formula of urban-rural differentials—ID = $\frac{U-R}{T}$, ID = Index in literacy, U = Percentage of literates in urban population, R = Percentage of literates in rural population, T = Percentage of literates in total population.

Low Differential Index Districts

Dakshina Kannada recorded the narrowest gap between urban (48.47) and rural (53.06) literacy rates. The main reason being a long tradition of indigenous education, vigorous efforts by private managements and consistent exposure of this coastal area to external economic, social, and political influences explaining the high rates of literacy both in urban and rural areas.

The differential index was low in Kodagu and Uttara Kannada also. These districts had advantages of private managements and also the benefit of an early start in education under the British and administration during the princely rule (especially for Coorg).

High Differential Index Areas

Districts such as Mysore, Gulbarga and Bidar show high indices of differentials. All these districts except Mysore are supposed to be drought-prone areas and urban-rural interaction was low due to relative poor rural prosperity and inefficient transport system. The case of Gulbarga was different as it is mostly dominated by Muslims who are against female education. In the case of Bidar high rates of differentials were noted because of the highly dispersed nature of population distribution in urban and rural areas.

Moderate Differential Index Areas

The districts with moderate differential index values were nearly eight in number. These are Bangalore, Belgaum, Bellary, Bijapur, Chickmagalur, Chitradurga, Raichur, Shimoga, Tumkur, Mandya and Hassan. These districts have both literate populations either highly distributed in urban areas or lowly distributed in rural areas Thus rural-urban differentials in literacy were the characteristics of districts marked by a relatively high degree of urbanization and participation of private managements in educational activities.

Literacy and Development

Further, an attempt was made to obtain a correlation matrix (Table 3) between literacy rates and development indicators. The main purpose was to ascertain the degree of association between literacy and indicators of development. The indicators chosen for this were: density of population per sq.km., percentage of urban population to total population, percentage of state population, per capita income, road length per 100 sq.km. area, number of educational institutions from pre-primary level to college level per 10,000 population, per cent cultivators and agricultural labourers other than agriculturists. Correlation matrix reveals that literacy rates are highly correlated with per capita income, number of high schools and workers belonging to the category other than agriculture and they are negatively correlated with cultivators and agricultural labourers. The correlation between the number of institutions at pre-primary and primary levels and the literacy rate is low, whereas the correlation is moderate at collegiate level. The indicators such as percentage of state population, road length have low correlation with literacy rate. The intercorrelation between the other variables have not been explained here.

Inter-district Variations in Literacy Rates

It is also interesting to examine the inter-district variations in the literacy rates in 1981. The literacy rates across the districts show a mean of 37.82 and standard deviation 8.53. This reveals that these literacy rates for the districts show higher mean and higher stan-

TABLE 3

Correlation Matrix of Literacy and Indicators of Development

Variables	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}
X_1	1.000											
X_2	0.3263	1.000										
X_3	0.3253	0.7615	1.000									
X_4	0.1625	0.7915	0.8055	1.000								
X_5	0.6068	0.0270	0.0009	—0 2875	1.000							
X_6	0.1601	0.4324	0.0019	—0.0211	0.1901	1.000						
X_7	0.1845	—0.2323	—0.3166	—0.4066	0.0089	0.2969	1.000					
X_8	0.7132	—0.0317	—0.0139	—0.2152	—0.4576	0.0963	0.4737	1.000				
X_9	0.3990	0.3458	0.4859	0.4981	0.1399	—0.0194	—0.0392	0.2300	1.000			
X_{10}	0.5454	0.5772	0.7509	0.5476	0.1904	0.0784	—0.1127	0.4390	0.5531	1 000		
X_{11}	—0.7983	—0.4370	—0.5127	0.2511	—0.7024	—0.0523	0.1151	—0.4755	—0.4113	—0.6610	1.000	
X_{12}	0.7411	0.4103	0.5154	0.1907	0.7636	0.1141	—0.0220	0.5110	0.4003	0.6240	—0.9649	1.000

X_1 Literacy rate
X_2 Density per sq.km.
X_3 Percentage of urban population to total population
X_4 Percentage of state population
X_5 Per capita income
X_6 Road length per 100 sq.km. area
X_7 Nursery and primary schools per 10,000 population
X_8 High schools per 10,000 population
X_9 Schools for professional and special education teachers training
X_{10} Colleges per 10,000 population
X_{11} Cultivators and agricultural labourers
X_{12} Other than agriculture

TABLE 4

Regions with High and Low Literacy Rates Along with Development Indicators

Regions with High Literacy Rates	Development Indicators										
	2	3	4	5	6	7	8	9	10	11	12
1. Bangalore	H	H	H	H	H	L	H	H	H	L	H
2. Chickmagalur	L	L	L	H	H	H	H	L	L	L	H
3. Chitradurga	L	L	L	L	L	H	H	L	H	H	L
4. Dakshina Kannada	H	L	H	H	L	L	H	H	H	L	H
5. Dharwad	H	H	H	L	L	L	H	H	H	H	L
6. Kodagu	L	L	L	H	H	L	H	H	H	L	H
7. Shimoga	L	H	L	H	H	H	H	L	L	H	L
8. Tumkur	L	L	H	L	L	H	H	L	L	H	L
9. Uttara Kannada	L	H	L	H	L	H	H	H	H	L	H
Regions with Low Literacy Rates											
1. Belgaum	H	L	H	L	L	L	H	H	H	H	L
2. Bellary	L	H	L	L	L	L	L	L	H	H	L
3. Bidar	L	L	L	L	L	L	H	L	L	H	L
4. Gulbarga	L	L	H	L	L	L	L	H	L	H	L
5 Hassan	L	L	L	L	H	H	H	H	L	H	L
6. Kolar	H	L	L	L	H	H	L	L	L	H	L
7. Mandya	H	L	L	L	H	H	L	L	L	H	L
8. Mysore	H	H	H	L	H	L	L	H	H	H	H
9. Raichur	L	L	L	L	L	L	L	L	L	H	L
10. Bijapur	L	L	H	L	L	L	L	H	L	H	L

Note : H=Values above the mean (computed)
L=Values below the mean (computed).

dard deviation This indicates further that there is more of divergence than convergence in literacy. This tendency is more for males than females Even then there is inter-district variations in the literacy rates for females. The rank correlation between males and females is higher (0.9) both in rural and urban areas. In terms of development indicators and literacy rates we can classify the districts as regions/districts with high literacy rates and districts with low literacy rates. It is interesting to note that the nine districts, namely Bangalore, Chickmagalur, Chitradurga, Dakshina Kannada, Dharwad, Kodagu, Shimoga, Tumkur and Uttara Kannada belong to the region with high literacy rates. The rest (i.e. 10) of the districts fall under the region with low literacy rates. Table 4 reveals district-wise analysis of the regions with varied literacy rates and development indicators chosen for the study. The following observations can be made from this :

1. Urbanization has impact on literacy rates.
2. Per capita income has greater association with literacy
3. In majority of the districts, the number of high schools has relationship with literacy rates.
4. Occupation other than agricultural labourers has direct effect on literacy rates. (This may be due to the fact that most of the districts with high literacy rates have become industrial pockets).
5. Density of population per sq.km. has no impact, so also road length (which may have impact only in a few districts).

Conclusions

1. There are inter-district variations in literacy rates in Karnataka

2. The disparity between urban and rural areas is a factor in bringing about urban-rural differentials in literacy rates.

3 Literacy is positively correlated with some of the indicators of development such as per capita income, number of high schools per 10,000 population, workers belonging to the category other than agricultural sector. It is negatively correlated with workers belonging to cultivators and agricultural labourers.

4. The literacy rates for districts have higher mean and higher standard deviation indicating a diverging pattern in the districts.

5. The rank correlation for male and female literacy is high in rural and urban areas.

6. There is regional variations regarding the indicators of development which have impact on literacy.

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Problems in Indian Higher Education : Challenges and Countersteps

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HIGHER education is the basic tool for social transformation and national advancement. It is expected to train the best man-power of highest quality in all walks of life. Pt Jawaharlal Nehru dreamed higher education to stand for humanism, tolerance, adventure of ideas and search of truth. However, serious anxiety prevails among all sincere citizens that higher education is not catering to social expectations. Universities, being the nerve centres of higher education, are not in a position to discharge their duties adequately either due to their internal obsolete disfunctional system or due to external constraints.

No doubt, during pre-independence era, higher education had awakened national conciousness and had strengthened the struggle for freedom. After independence, it has contributed very significantly to our political leadership which has enabled us to run the world's largest democracy. It has accelerated egalitarion trends in our society, and has gifted us with good scientific and technical leadership, thereby enabling us to modernise our industry and agriculture. However, these achievements stand nowhere if compared with the social expectations and needs of this developing country. Furthermore, contrary to the expectations, universities' environment these days has given us a social shock Violence, threats, intimidation, and coersion, which have no place in academic life, have been actively resorted to and a small organised minority of misguided students is holding everyone to ransom, very often with the help of external anti-social elements. In several parts of the country, the forces of chauvinism, regionalism, casteism and linguism are inbreeding into apex educational institutions, consequently threatening our unity, strength and progress

Higher education must be characterized by liberation of mind. It has no place for dogmas, superstitions and obscurantism. It should strive a value system that can promote and extend the boundary of knowledge successfully on scientific thinking.

Value systems, which are losing the ground, are important catalysts, not only for transforming the society but also for transcedenting self-development. Sincere regard, for example, not only bring about healthier and harmonious student-teacher relationship, but it also elevates students' personality, behaviour and self-control, thus preparing them for better social adjustments.

Value system in higher education should encourage pursuit of truth without fear or favour, inculcate habits of concentration and self-study, educate objectivity of outlook and scientific temper, promote cooperative spirit, shared goals, tolerance and shape liberal minds above narrow loyalties.

The uncomfortable position of universities is essentially due to shortage of good quality teachers, who alone can maintain better standards of education. Lack of financial and other material resources and constraints of limited employment opportunities, too, affect the behavioural pattern of students in higher education. However, a serious crisis has been brought into the campuses by politically interested groups and bureaucratic game-players. These problems cannot be solved unless the society, as a whole, and its leadership of all categories, recognize the significance of higher education in national development and exercise restraints in order to create proper atmosphere for healthy functioning of university system. Amidst these acute problems one is completely disheartened when he ventures to look ahead for meeting the challenges of higher education. The existing as well as future challenges have various facets.

Increasing numbers of socially deprived minority members entering higher education need special attention, affection and favour to develop in them the same level of knowledge and skill as the students coming from priviledged social groups. The increasing level of formal education for technical and scientific advancement needs knowledgeable teachers and well-equipped institutions. Increasing numbers of female students aspiring for higher education need suitable arrangements adjustable with social constraints.

Further, there is growing evidence that the traditional ethic of education among students and teachers is declining in favour of a more existential view of life. Instead of the universities providing the basic guides to learning, students are exploring and determining for themselves as to what they want to do and what to become. With this philosophy, education becomes only one alternative among many as a means for advancement and enjoyment of life. This is creating unguided youth with undirected energy, giving unwanted leadership to society. No panacea appears at hand for these ills. However, some important clues suggesting effective ways and means to deal with this situation may be discussed below.

Teachers' talent is essential for the success of higher education as they are usually allocated the primary responsibility for ensuring attainment of the goals. This requires designing of a socio-technical system that facilitates the accomplishment of desired education within the institutional system and adjusting to external changes in the environment.

The first cardinal principle for higher education should be that 'all development is self-development'. A corollary of this is that the development efforts on the part of the teachers and universities should be geared to individual differences of students. There is less justification for uniformity of education at higher level than at secondary level. It should also be recognized that higher education becomes a long-range process for developing quality leadership to be given to society in all fields. It cannot be attained by taking a course or simply by reading books

If self-development is the main guiding concept, the establishment of an effective university climate is the second most important factor. All educational facilities must be made available and their use be directed towards maintaining motivational climate needed for learning.

This process of self-development may be geared up by engaging students compulsorily in community services of their interest. Interactions with community would not only provide sensitive training to them, but it would also give pragmatic colour to their imagination and learned knowledge. These programmes should be varied to suit local conditions and capacities and interests of the students.

Innovation is a pre-conditional foundation for every developmental effort. Students' participation in utilitarian researches is desirable, as it would broaden their outlook and deepen their understanding. It would also help the universities restructure the curriculum meaningfully. Research is now increasingly becoming a 'group' activity, too complicated to be pursued by individuals in isolation due to its inter-disciplinary character. Various attitudinal corrections desirous for teamwork, would automatically take place among students To check rushing of students for higher education, and to maintain the quality of education, efforts should be made to provide all types of job opportunities as well as professional courses immediately after secondary level.

Though the foregoing suggestion provide some clues to encounter the ills and challenges of higher education, the success depends entirely upon the collective efforts of politicians, social workers, community, teachers and students themselves.

Poetry Appreciation

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"THERE are many (men) who, by false application of some rules ill understood, or out of deference to men whose opinion they value, have formed to themselves certain schemes and systems of satisfaction, and will not be pleased out of their own way. These are not critics themselves, but readers of critics, who without the labour of perusing authors are able to give their characters in general, and know just as much of the several species of poetry as those who read books of geography do of the genius of this or that people or nation-Pope" Rawlinson (1979)

To how many of us would the quotation apply ? If it did, what would be the fate of students under our care ? What would be the fate of examinees if criticism need not fit into a mould, and therefore not assessable on an objective basis ?

In the article "Appreciation in Literature —A Study", Banerjee (1984) brings out that "It is a matter of common experience that there is more variability in understanding poetry than prose". Among the findings from his study, those which are pertinent for our purpose are : (a) owing to the lack of special training in the appreciation of poetry its performance could not become satisfactory, and (2) the variability in the appreciation of poetry became greater.

There were some questions in the present author's mind when this study was undertaken, specially in the context of testing 'appreciation of poetry' at an examination. How should a person respond to a poem ? What makes people respond differently to the same poem ? Is poetry testable at an examination ?

Procedure

In 1984, a letter was addressed to the Principal/Headmaster of a school to ask a lecturer/teacher of English, unless the name of the person was mentioned in the letter, to act as directed and respond to items in cyclostyled sheets. A letter was addressed also to the probable or identified respondent, informing him that due to his long experience of teaching English, specially poetry, he was being approached. It was made clear that the purpose was not to test the respondent, but to find out whether everyone can identify poetry, and of those who can, whether they can 'appreciate' poetry. The response would be treated as confidential.

Although the respondents were asked to indicate their sex, and the period of service, on the response sheet, most of them did not do so.

The respondents were required to look at the two sets in the cyclostyled sheets, one set termed 'Preliminary' and the other termed 'Secondary'. In the Preliminary set, there were ten items which the respondents had to distinguish as 'poems' or 'not poems', and then to place the 'poems' in order of their preference, giving five to ten reasons for their preference. In the Secondary set, there were five sets of poems. Each set had two poems, one under column 'A' and the other under 'B'. The respondents were requested to indicate which poem of each set was better, and to give reasons.

Letters as mentioned above were sent to four groups of people. The first group was one from which it would be discerned whether the responses could be analysed in some manner. Of the five persons invited to respond, two regretted their inability for "personal reasons". It was realised that the directions given were sufficiently clear. However, it was noted that the reasons adduced for giving preferences were not analyseable, because they were not as many in number as asked for, or were not quite explicit, or were cliches and therefore not truly personal responses To make it clear, some responses were : 'its style is lucid', 'its thoughts are appealing', 'substance and its presentation'.

The second group consisted of seven persons. One lecturer from a Higher Secondary School in whose personal name the letter was sent could not respond as it was learnt that he had been transferred from the school whereto the letter had been addressed. Another lecturer from a Higher Secondary School under the Kendriya Vidyalaya, did not respond nor did he explain his silence. Those who did respond were a University Professor teaching at the Post-graduate level, a Professor in a Training College, two lecturers in other Colleges, and a lecturer in a Higher Secondary School. The University Professor had a doctorate in a language other than English and was an acknowledged poet, though he had no degree in English. The others were post-graduates in English.

The third group consisted of 19 persons. However, of those who responded, six were teaching in Higher Secondary Schools, three in Colleges, and four were from High Schools and such as had been taken as Resource Persons for orienting primary school teachers to teach English as a third language. From some respondents it transpired that the 'Secondary' set was being misinterpreted. Instead of showing preference between 'A' and 'B', they ranked the sets of poems.

The last group consisted of teachers in high schools. Of the 46 teachers approached, 32 responded. Of the respondents, 13 were from urban schools and 19 from rural schools, or, 11 from denominational schools and 21 from secular schools.

The items in the 'Preliminary' set consisted of:

1. Grandfather by G. Patel; 2 The Beginner by R. Kipling; 3. So Well go on More Arowing by Byron, 4. The Lord of Creation by J. Furtado; 5. Unknown Female Corpse by R. Kipling; 6 Reverie by G. Mendonsa; 7. Post Mortem by G. Patel; 8. Shock by R Kipling; 9. The Refined Man by R. Kipling; and 10 The Mighty Mountain by J.A. Sequeira. The poems by Gieve Patel were taken from "Poems" by G. Patel (1966) published by the well-known poet, Prof. Nissim Ezekiel Poems Nos. 4, 6 and 10 were culled from the Magazine 'Goa Today' published at different times. The other poems were taken from "The Practice of Criticism" by Rawlinson.

Analysis

Rawlinson has categorised the epigrams by R. Kipling. He remarks that "The Beginner" is good, the "Unknown Female Corpse" and "Shock", are conventional, and "The Refined Man" is the best of epigrams. He has rated the poem by Byron as 'very good'.

On Preliminary

What has been pointed out above gains in significance in the light of the responses as shown in Table 1.

TABLE 1

Rated as NOT a Poem by Groups

No. of the Poem	1st	2nd	3rd	4th
1	2(3)	3(5)	7(13)	16(32)*
2	2	0	4	13
3	1	0	0	4
4	0	1	2	5
5	2	1	5	14
6	0	1	0	5
7	1	4	9	26
8	1	0	3	10
9	2	2	5	14
10	0	0	3	4

* N B The second bracketed figure stands for total respondents in each group.

From Table 1 it is interesting to note that Poem No. 1 was considered as NOT a poem by more than 50 per cent of each group of respondents. Similarly, Poem No. 7 was considered as NOT a poem by the overwhelming majority of 2nd, 3rd and 4th groups. Poem No. 9 was considered as NOT a poem by around 40 or more per cent of respondents from the groups, although it was the best of epigrams for Rawlinson (op. cit).

It may be recalled that the respondents were asked to rank whatever items they considered 'poems'. The responses are at Annexure 1. It was seen that none of the groups gave any rank to Poems Nos. 5 and 8. There was no poem which was ranked by 25% of respondents of all groups. However, Poem No. 4 was ranked 2nd by about 25% respondents of group 4. Poem No. 6 was ranked 1st by about 25% of respondents of groups 1 and 4. The number of respondents who gave other ranks to the other poems was below 25%. So, no significance is attributed to such.

Another set of analysis was the inter-correlation in ranks given by respondents of each group. A score table is given at Table 2 for the first group of three respondents, and correlation matrices have been worked out for the 2nd, 3rd and 4th groups. The matrices for each of the latter groups are shown in Table 3 and Annexures II and III, respectively

It is seen that the closest correlations among the three respondents of the first group are for Poems Nos. 4 and 6.

The correlation between 1st and 3rd respondents of this group, was significant at 5% level.

Statistically speaking, the correlations between and among respondents of the 3rd and 4th groups are shown in Table 4.

TABLE 2

Ranks Given to Poems by Respondents in the First Group

Respondents/Poems	1	2	3	4	5	6	7	8	9	10
1	6	9	8	5	2	3	1	4	7	10
2	0	0	0	4	0	3	1	5	0	2
3	0	0	4	3	0	1	0	0	0	2

TABLE 3

Inter-respondent Correlations

Respondents of the Second Group	2	3	4	5
1	17	63*	03	—13
2		—05	14	49
3			36	05
4				20

TABLE 4

Respondents	No of Correlations	Significance of Correlations			
		+ ve at 5% only	at 1%	− ve at 5% only	at 1%
Group III (13)	78	6	4	Nil	Nil
Group IV (32)	528	77	36	2	1

From Table 4 we note that only 13 per cent of the third group and 21 per cent of the 4th group have shown consistency in appreciation of poetry, even though 0.6 per cent of the fourth group are negatively correlated.

On Secondary

The sets in the 'Secondary' part of the cyclostyled papers have been taken from the book by Rawlinson (op. cit).

The first set is by Shakespeare, 'A' being from 'The merchant of venice', and 'B' from 'Measure for measure'. The second set is entirely by Ben Jonson, and the poems in A and in B are entitled 'On my first daughter' and 'On his first son', respectively. In the third set, A is 'A song' by Ben Jonson and B is 'Delight in disorder' by Robert Herrick. In the fourth set, 'The shadow on the stone' under A, and 'The voice' under B, are both by Hardy. In the fifth set, A is 'The road not taken' by Robert Frost. and B is 'The sign post' by Edward Thomas.

In his book, Rawlinson has shown his preferences for the sets and given an analytic reasoning for the preferences.

Preferences given by the respondents and those Rawlinson are shown in Table 5.

TABLE 5

Preferences by Number of Respondents and Those of the Author

Sets/Preferences	Rawlinson	Respondents	A	B
I	B	1st group	3	0
		2nd group	3	1
		3rd group	3	5
		4th group	17	9
II	B	1st	1	2
		2nd	4	3
		3rd	4	4
		4th	14	12

III	A	1st	1	2
		2nd	1	3
		3rd	8	0
		4th	14	11
IV	B	1st	2	1
		2nd	3	1
		3rd	5	2
		4th	14	11
V	B	1st	1	2
		2nd	3	1
		3rd	6	2
		4th	18	8

The total number of respondents does not tally with the original total. One respondent of the 2nd group was ambivalent. This response was of the type "both have equal claims". Such ambivalent respondents are placed neither with A nor with B. In the 3rd group, five respondents did not indicate the sets preferred, and one was ambivalent as to set IV. Of the 4th group, six respondents did not show preferences, and one each was ambivalent in sets III and IV.

But for the 3rd group of respondents, all preferred A to B in set I. In set II, the first and second groups preferred B to A. In set III, the third and fourth groups preferred A to B. In set IV all the groups preferred B to A. Finally, only the first group preferred B to A in set V.

It can be argued that Rawlinson is not the final authority, and, therefore, no one is bound to rank and to give a preference which is according to Rawlinson's views. Assuming that it is true, the testing of poetry which is an aesthetic experience, is not only very difficult but almost impossible. Consequently, those Examination Boards which have "appreciation of poetry" assessed in terms of marks, are not justified in doing so, because it is a truism that if there is no objectivity, a system using marks for assessment is unreasonable.

The lack of closeness in agreement between and among University people is disconcerting, specially when appreciation of poetry is being tested at the University level.

Conclusion

Testing of the "appreciation of poetry" by means of a written examination and assigning marks to the answers is not justifiable. Therefore, such testing must be stopped at written examinations.

The other questions raised at the beginning of this paper could not be cleared. So, further and more detailed study is required.

ANNEXURE I

Ranking of Poems by Each of the Four Groups

Poems/Rank	Groups	1	2	3	4	5	6	7	8	9	10
1.	i	0	N.R.	0	0	0	0	1	N.R.	N.R	N.R.
	ii	1		1	0	0	0	0			
	iii	1		1	0	1	3	0			
	iv	1		1	2	5	1	2			
2	i	0	0	0	0	1	0	1	0	N.R.	N.R.
	ii	0	0	1	1	0	1	2	0		
	iii	1	1	0	0	2	2	0	1		
	iv	1	1	0	1	4	1	3	5		
3.	i	1	0	0	0	0	1	0	0	N.R.	N.R.
	ii	2	2	0	0	0	0	0	1		
	iii	3	4	1	1	3	0	1	0		
	iv	0	0	0	0	0	0	0	0		
4	i	0	0	1	1	0	0	0	1	N.R.	0
	ii	0	1	1	0	0	0	0	1		1
	iii	2	1	1	3	0	1	1	0		1
	iv	5	9	4	6	2	1	1	0		0
5.	i to iv	Not Ranked at All									
6	i	2	0	1	0	0	0	0	N.R.	1	N.R.
	ii	2	1	0	0	0	0	1		0	
	iii	3	2	4	2	1	0	0		0	
	iv	9	8	7	1	0	1	0		0	
7.	i	1	N.R.	0	N.R	0	N.R.	0	0	1	N.R
	ii	0		0		0		1	0	0	
	iii	1		2		0		0	1	0	
	iv	0		3		1		0	0	0	
8.	i to iv	Not Ranked at All									
9.	i	N.R.	1	0	0	0	0	0	0	N.R.	N.R.
	ii		1	0	2	0	0	0	0		
	iii		1	0	2	1	1	1	1		
	iv		1	5	1	4	1	2	3		
10.	i	0	2	0	0	0	0	0	0	0	0
	ii	1	0	1	2	1	0	0	0	1	0
	iii	1	2	2	0	1	0	1	1	1	1
	iv	6	7	3	6	2	1	1	1	1	0

N.R. = Not Ranked

ANNEXURE II

Inter-respondent Correlations

Respondents of the Third Group	2	3	4	5	6	7	8	9	10	11	12	13
1	06	26	−12	10	10	−08	−23	45	41	20	64*	02
2		40	59	74*	23	88**	−09	−14	−05	22	48	76*
3			36	64*	−28	23	−32	−02	48	−08	31	−07
4				38	−26	53	04	19	15	34	15	51
5					−11	69*	−04	−28	56	23	29	78**
6						12	−04	50	−35	14	80**	18
7							13	−33	−05	43	35	82**
8								−02	25	76*	−32	13
9									−24	12	−62	−01
10										28	−05	16
11											25	42
12												53

*Significant at 5% level

**Significant at 1% level

ANNEXURE

INTER-RESPONDENT

Respondents of the Fourth Group	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1.	73*	34	27	37	73*	59	11	57	10	48	71*	49	52	73*	60	80**
2.		22	52	18	47	35	37	74*	14	35	58	51	77**	40	81**	69*
3.			—18	38	10	—26	—68*	02	—37	—40	27	—48	67*	65*	—11	66*
4.				—13	14	08	72*	58	61	69*	33	43	22	23	74*	31
5.					61	21	—04	33	02	15	51	—04	01	28	08	40
6.						80**	15	68*	43	42	89**	51	08	50	60	64*
7.							23	41	24	59	57	54	07	14	56	24
8.								54	59	69*	15	64*	—21	—18	60	—13
9.									69*	45	84**	64*	36	45	92**	64*
10.										55	59	63*	—22	15	60	21
11.											45	64*	—15	12	56*	20**
12												55	34	59	72*	81**
13.													05	03	66*	28
14.														47	40	73*
15.															38	81**
16.																54
17.																
18.																
19.																
20.																
21.																
22.																
23.																
24.																
25.																
26.																
27.																
28.																
28.																
30.																
31.																

*Significant at 5% level
**Significant at 1% level

III
CORRELATIONS

18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
90**	60	59	74*	52	—37	63*	56	64*	71*	57	60	26	70*	84**
78**	29	67*	49	77*'	—19	82*'	79'*	52	56	77**	55	51	90''	55
56	—12	39	15	67'	18	01	37	02	22	—08	—10	28	21	07
20	—26	11	39	22	—70*	73'	39	12	67*	62	31	07	56	11
39	19	012	28	01	27	11	19	45	08	—01	09	56	01	53
65*	69'	27	63	08	—12	57	51	37	49	30	76*	31	43	80
47	79*'	35	62	—07	—18	48	37	23	28	21	82''	22	28	65'
—10	—03	—22	21	—21	—41	57	11	39	27	50	25	06	36	27
55	29	27	39	36	—18	89'*	70*	35	60	55	68'	43	84**	52
01	11	—13	06	—22	—45	53	15	—11	54	30	52	—15	38	18
30*	29	10	56	15	77**	53	11	29	65*	51	55	—05	28	53
75*	54	43	45	34	—23	69*	60	21	70*	42	80**	35	65*	64'
35	64'	33	16	05	—47	54	17	34	56	72*	70*	01	56	64*
74'	06	80**	19	100*'	—03	45	67'	17	43	50	24	40	71*	15
65*	13	29	62	47	—27	49	53	34	63'	20	26	01	58	42
56	32	42	52	40	—32	98**	75'	30	67*	58	78**	38	87**	45
89**	33	63'	49	73*	—24	59	69'	30	74*	54	50	24	73*	56
	54	80**	54	74*	—24	58	63*	39	69*	52	64*	46	70*	65*
		51	24	06	—07	19	13	27	28	27	73*	18	27	73*
			19	80*'	—22	38	49	00	52	50	61	29	59	29
				19	—33	63'	61	51	43	32	39	07	43	59
					—03	45	67*	17	43**	50	24	40	71	15
						—33	08	03	—80**	—48	—32	43	—27	—22
							81**	34	62	57	67*	35	89**	42
								24	34	48	50	42	78**	31
									18	47	—01	28	40	77
										63*	59	—15	66	48
											39	—01	68*	58
												29	59	51
													32	20
														45

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Infant Food Supplementation : Impact of Health Education

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There are enough data which reflect that infant's food supplementation at an appropriate age has a far-reaching positive influence on the child's health (Cowan, 1982; Jelliffe, 1955; Ghosh, 1979 and Kent 1981). In regard to the above statement, WHO (1979); Maniar (1979) and Martin (1975) have reiterated that breast-feeding among the infants must be supplemented at the age of 4 to 6 months. Similarly, Cowan (1982) and Jelliffe (1955) have also concluded that inclusion of semi-solid food into the diet of a child at a very early age, i.e. within 4 months also has an adverse effect on the growth and development of the child. Sen (1954) and Jelliffe (1955) have observed that in certain families, owing to the various rituals and ceremonies, inclusion of semi-solid food into the diet of the child is delayed. Ghosh (1979) and Gupta (1981) have also cited that the mothers' higher educational level often has a positive association with the timely introduction of semi-solid food to the child.

In view of the above fact, the present author has made an attempt to investigate as to what extent mother's education is exactly associated with an infant age at food supplementation ? Secondly, to what level the above correlation can be modified through health education ? Keeping in view the existing literature, it was hypothesized that health education to low educated mothers promotes the inclusion of semi-solid food into the diet of a child at the appropriate age.

Materials and Methods

This study was limited to the City of Ludhiana The total sample consisted of 300 children (0-2 years) and their mothers. Out of the total sample, 100 respondents (mothers) who delivered children at the Christian Medical College, Ludhiana, were selected through systematic random sampling procedure. These mothers were repeatedly exposed to health education on child-feeding care, during antenatal clinics, postnatal clinics and hospitalization for delivery services. The remaining sample of 200 respondents was drawn through stratified random sampling method. Data were collected with the help of a structure schedule. The services of paediatricians, obstetricians, medical and nursing students were also availed of for strengthening the health educational drive before the onset of data collection.

Analysis of Data

Infant food supplementation is a process by which food rather than breast-milk is introduced. So first of all an effort will be made to study the impact of mothers' educational attainment on food supplementation. Table 1 presents the data on the same.

TABLE 1

Respondents' Education and Children About Four Months by Age at Which Semi-solid Food was Started to be Given to Them

Education	0-16 Weeks	17-24 Weeks	25-32 Weeks	33-40 Weeks	41-48 Weeks and Above	Total Number of Cases=100%
Illiterate	—	16.7	22.2	22.2	38.9	18
1st-5th Class	—	23.1	34.6	14.4	26.9	26
6th-8th Class	3.4	16.7	33.3	23.3	23.4	30
9th-10th Class	—	31.3	21.8	23.9	22.9	96
Undergraduate	6.1	42.4	27.3	15.2	9.1	33
Graduate and above	9.1	45.4	25.0	15.9	4.5	44
Total	2.7	31.6	25.9	20.3	8.9	247
Total Number	7	78	64	50	22	247

Table 1 shows that on the whole inclusion of semi-solid food into the diet of an infant is not common. A very negligible number of mothers did not keep the infants on exclusive breast-feed up to four months. Twice the percentage of mothers having a higher educational level (above 10th Class) than those with a low educational level started giving semi-solid food to their children up to the age of four months. On the other hand, about four times the percentage of mothers with a low educational level started giving semi-solid food to their children after the age of eight months as compared with the mothers with high educational attainment. The above findings reveal that higher educational attainment of the mothers has an appreciable positive association with the introduction of semi-solid food to the child From Table 1 it is concluded that the lower the educational level of the mother, the lesser is the introduction of semi-solid food into the diet of the child within four months of its birth. This shows that the poor educational level of the mother is a formidable obstacle in early infant food supplementation. The above findings correspond with the result drawn by Ghosh (1979) and Evans et al (1976).

The next pertinent question which arises is : To what extent the negative effect of the low educational level of the mother can be modified through health education ? How far health education can supplement the impact of the educational level of the mother ? To determine the above relationship, in the following analysis, the educational level of the mother will be controlled and then simultaneously the impact of the place of delivery will be ascertained.

TABLE 2

Respondents' Educational Level and Children About Four Months by Age at Which Semi-solid Food was Introduced to Them and the Place of Delivery

Level of Education	Age at Which Semi-solid Food Introduced 0-16 Weeks	17-24 Weeks	25-32 Weeks	33-40 Weeks	41 Weeks and Above	Place of Delivery, Each Total Number of Cases = 100% Home	Hospital
Illiterate	—	13.3	26.6	20.0	40.9	15	
	—	33.3	—	33.3	33.3		3
1st-5th Class	—	19.0	38.0	14.3	28.6	21	
	—	40.0	20.0	20.0	20.0		5
6th-8th Class	—	17.5	30.4	21.7	30.4	23	
	14.3	14.3	42.9	28 4	—		7
9th-10th Class	—	25.7	10.6	30.3	33.3	66	
	—	43.3	46.7	10.0	—		30
Undergraduate	5.3	26.3	10.5	26.3	15.8	19	
	7.2	42.8	50.0	—	—		14
Graduate and above	4.3	30.4	26.1	30.4	8.7	23	
	14.3	61.9	23.8	—	—		21
Total Number and %	2(1 2)	42(25.1)	34(20.6)	43(25.7)	26(27.5)	167	
	5(6.2)	36(45.0)	30(37.5)	7(8.7)	2(2.5)		80

Table 2 shows that at every educational level, the mothers who introduced semi-solid food to their children within four months of their birth, are over-represented among the mothers who delivered their children in the hospital. However, as apparent from the table, the impact of health education in the context of the introduction of semi-solid food to the child, is more operative among the mothers having higher educational attainment. It is evident from the table that although the poor educational attainment of the mother adversely affects the inclusion of semi-solid food into the diet of the child, yet it can be checked through health education. The above findings show that health education and general educational level of the mother are complementary and supplementary to each other and they have striking association with the infant food supplementation. If we divide all the respondents into low (0-10th Class) and high (undergraduate and above), it is quite evident that the above findings are in agreement with our hypothesis, i.e. health education to low educated mothers promotes the inclusion of semi-solid food into the diet of a child at an appropriate age (4-6 months). To ascertain the validity of the above hypothesis, X^2 (Chi-square) test was applied. The above test showed that our hypothesis is statistically significant ($p<0.05$). The above observation adds to the experience of Ghosh (1979) and Jelliffe (1979) and is in conformity with Cowan (1982).

Suggestions

It is strongly recommended that health education activities regarding infant food supplementation must be strengthened, especially among low educated sections of women population.

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Book Reviews

This School Belongs to You and Me
Gerald Newmark, Hart Publishing Company, New York City, pp 431, Price : $10.95.

A SOUND education in schools is a matter of great concern to most of us as parents and teachers. In the market there are a large number of books on education which are primarily scholastic in style and content. 'This School Belongs to You and Me' is a book on schooling written on the basis of practical experience of the author with a common-sense approach. The book describes how with a little planning, leadership and initiative of the school staff and parents, the school can be turned into a learning community.

Basically, the book dwells on a 'tutorial community project' tried out by the author himself who has been a classroom practitioner of a long standing. The concept of a tutorial community in the school can function as a refreshing change over from the teacher-dominated lecture model of instruction.

Generally, as is the case in our country, in most schools, the teacher works as the sole source of learning. When a teacher rattles off at his speed without caring for how much children have been able to grasp, he leaves behind a mass of confusion and learning gaps. In the light of the drawbacks of the lecture model of instruction, the book advocates with examples in various subject areas the concept of using the fast-learners and parents for individualized tutorial sessions to foster self-learning among students. The whole procedure has been illustrated by various programme outlines and pictures. A part of the reading activity programme goes as follows :

> Tutor and tutee may read a play together, a small group of tutors and tutees may read and enact a play together.
>
> Tutor and tutee read various articles in a magazine.
>
> Tutor and tutee read comic strips to each other. Tutor and tutee create their own comic strips.
>
> In interaclass tutoring, students may be paired to read library books to each other in buddy session.

Numerous activities of the above-mentioned type have been given with practical suggestions. Thus, the book can be of a great help to a classroom instructor for monitoring and charting the progress of students toward self-learning.

The book is in bold print and makes an easy and light reading. It being a sound professional effort of a classroom instructor, the book can work as a source-material for every teacher who wishes to improve his instructional skills.

LALIT KISHORE

Elementary Statistics in Psychology and Education

A B.L. Srivastava and K.K. Sharma, Sterling Publishers Private Limited, pp. xi+239 (paperback). Price : Rs 25.00.

THE textbook under review conforms to the curriculum in statistics prescribed as part of undergraduate-level courses in education and psychology by Indian universities. Students joining these courses have varied backgrounds as far as exposure to statistics is concerned. Some of them undergo a preliminary course in statistics as part of mathematics at the +2 stage of school education. Quite a good number of them are exposed for the first time during the aforesaid courses. This situation is quite unique to the courses in education and psychology and, therefore, calls for instructional material to be able to cater to the needs of both the groups of students. Further, these courses are the building blocks for using statistics as a tool in their higher level courses and also in their profession. It is, therefore, imperative that textual material developed at this stage should be sufficient in all respects in building up basic concepts in statistics and also prepare them for using statistical techniques appropiately and with understanding in the areas of their study. The textual material developed in eight chapters of the book meets the aforesaid requirements of teaching statistics to students of education and psychology.

Chapter 1, besides covering statistics in daily life, as a subject and basic concepts, includes a detailed and comprehensive account of practical applications in the educational and psychological fields. Manipulation of the summation operator, at the end of the chapter, is specially useful for novice when frequent applications of the same are required in the subsequent chapters. This is again a deviation from the routine presentations.

The second and third chapters initiate discussions on fundamental of measurement, preliminary manipulations for construction of frequency and cummulative frequency distribution, tabulation and graphical representation. The discussions on the fundamentals of measurement cover essential aspects such as types of variables, scale of measurement, etc. These are helpful to the students for understanding the above-mentioned topics. Still such discussions do not find place in most of the textbooks of this level.

Measures of central tendency and dispersion are covered in Chapters 4 and 5, respectively Contents of these chapters describe computational procedures of each measure for grouped and ungrouped data separately. Algebraic properties, merits and demerits of these measures are presented in unambiguous way and illustrations are quite simple Treatment to correlation in Chapter 6 is quite extensive covering its types, properties, methods of studying correlation for grouped and ungrouped data, rank correlation and comparison of the two.

Chapter 7 introduces basic concepts of probability theory including classical and empirical definitions of probability, rules of probability and probability distribution. This aspect is further supplemented by including fundamental rules of counting presented separately at Appendix 2. At the end of the chapter, binomial probability distribution with its properties and applications is discussed. The last chapter of the book is devoted to normal probability distribution in which equation of the normal curve, its properties, area under normal curve and normal approximation to the binomial distribution are covered.

Content of every chapter is supplemented by varieties of numerical illustrations and graphical representation by adopting integrated approach These are carefully selected from the areas of applications in education and psychology wherein authors have used their rich and long research and teaching experience as teacher educators. Further, a set of problems at the end of each chapter needs a special mention because these constitute an exhaustive database for problems. These could be effectively used for diagnosing deficiency in learning and for evaluation of students

The book on the whole provides integrated approach to the content which is presented in simple form without losing mathematical rigorousness. But there are a couple of printing mistakes such as losses instead of tosses, demoire instead of De Moivre on pages 6 and 197, respectively. There is some inconsistency between values of probability in the text and tabulated values given in Table A of Appendix 1 for z=1 and 2. May be the values used in the text are based on higher precision than those reported in the table. These limitations of the text, however, do not reduce the merit and effectiveness of the book.

PADAM SINGH

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JIE invites articles/papers on the impact of educational research on classroom practices, and policy decisions. Specific examples where this impact is apparent may be given.

GENERAL EDITOR

EDITORIAL

Reading — A Good Habit

Reading by itself is a good habit. Becon recommended it for making a man perfect and since then numerous scholars and scientists have been commending it. It would, however, appear that reading has, of late, become a casuality at the hands of both media and modern worries. Studies after studies show that teachers even at the university stage are no longer interested in reading. A study of Bombay university teachers was quite revealing. Even the post-graduate teachers were found wanting in reading habits. Similarly, a study of eastern UP school teachers indicated the best reading to include local newspapers and light magazines. With the extension of television coverage, the problem seems to have multiplied several folds. In other words, the consumer society has taken its own toll and the consequences are that teachers have also joined in the rat race of power and glamour which do not by their very nature admit of the possibility of engaging oneself either in reflection or reading.

Interestingly, life was never a trouble-free zone. The hardships of life have always been bothersome. Therefore, it is no surprise if we also made an effort toward making life an interesting endeavour. But somehow for teachers reflection and reading are the twin equipments for improving their professional calibre. Teachers can ignore books only at the risk of becoming irrelevant professionally. One should not take any of those risks which degenerate teaching as a profession.

Mere slogans do not help matters. It should be necessary that a few positive steps are also recommended for promoting reading as a proper habit. Perhaps teachers' commonrooms and tea-clubs could be developed as places for good academic discussions. Inviting intellectuals from the nearby areas or localities would also help. Similarly, a new book a week or a month could be lectured upon by teachers themselves, if outsiders are not available to introduce the book.

Innovations in the development of reading as a habit should also be welcomed. We must make efforts to see that reading as a habit does not gradually become an inconsequential part of professional obligation.

GENERAL EDITOR

The Tragedy of Teaching Grammar

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As in literature teaching, where there are believers, non-believers, and the confused, in the field of grammar teaching, some people with blind, unyielding faith in the value of grammar as the basis of good writing advocate the teaching of grammar as a subject in the curriculum and some condemn it saying that there is probably no subject on the school timetable on which more time is expanded unprofitably than English Grammar; quite a few are confused and have no clear idea regarding the nature, use and outcomes of grammar instruction and as a result grammar, as it is in the case of Shakespeare, is taught out of necessity because it is included in the syllabus and it is learnt since questions are asked in the examination.

Michael West lists some of the reasons for the 'popularity' of grammar among language teachers:

(a) It is possible for a teacher to teach the grammar of a language although he has no real command over the language.

(b) Grammar is popular with examiners. It is difficult to test fluent speaking ability or writing ability. Grammar questions are easy to set and correct.

(c) Many examiners are elderly: they learnt their English under a grammatcial system.

(d) Directorates of Education demand grammar. They observe that children in the schools speak and write ungrammatically and say therefore teach them more grammar.

(e) The educational theorist demands it. Grammar gives a training in reasoning.

Equally powerful arguments have been put forward against the teaching of grammar :

(i) Much input produces little output; what was learnt was not applied, was or was not applied with sufficient point and frequency.

(ii) Many of the definitions and explanations of the grammatical forms and functions were unsatisfactory.

(iii) The traditional method was inadequate; the teaching of grammar concerns itself with picking out parts of speech, the parting of words in a sentence, word relationships and grammatical functions; the meaning of the sentence escapes notice and slips through the net of comprehension. Grammatical analysis breaks up the unity of thought by its focus on detail and fails to relate the detail to the whole.

(iv) In grammar teahcing there is usually no application of what is studied. Grammatical rules may be thoroughly understood and learned by a pupil and yet not applied in practice.

(v) The study of grammar is not necessary for children and it is not sufficient for adults, meaningful exposure is sufficient for children and necessary for adults.

Then we have the peace-makers who preach peaceful co-existence :

(a) "... focus on grammatical competence in the classroom is not a sufficient condition for the development of communicative competence It would be inappropriate, however, to conclude from these studies that the development of grammatical competence is irrelevant to or unnecessary for the development of communicative competence" (Canale and Swain).

(b) "The answer to the question 'Ought we to teach grammar?' is therefore, psychologically 'yes' and linguistically "perhaps" (Pit Corder).

Michael West was not against grammar altogether. He pleads for the teaching of grammar related to vocabulary level; he lists the following points in favour of teaching grammar :

(a) Grammar teaches us 'the concealed liabilities of a vocabulary'.

(b) Grammar is a set of labour-saving rules, explanations and patterns which economize effort in language learning.

(c) Grammar is a preventive and corrective medicine, safe-guarding or rectifying those points or word-use which are specially liable to error.

He further adds that "a grammar book bears the same relation to speaking as a book about tennis bears to playing tennis; both tell the learner what he ought to do. But he might know the whole contents of both yet be unable either to speak the language or play the game, because language, like tennis, is not a knowledge but a skill; a matter of immediate unconscious reaction acquired only by practice".

An examination of the sources of all these conflicts and confusions will reveal that there is no agreement regarding the crucial issues listed below :

1 What is grammar ?
2. How much grammar is to be taught, if it is to be taught at all, to whom and at what stage ?
3. For what purpose is it to be taught ?
4. If it is to be taught, how is it to be taught ?

What is Grammar ?

The term 'grammar' has meant various things at various times and often several things at the same time. This is one of the major sources of confusion. As part of the trivium, grammar was taught along with logic and rhetoric; it was an effective 'package deal' but the pact was broken and grammar got separated, lured by linguistics. Later, grammar became more and more descriptive, sometimes universal, sometimes specific, sometimes at the deeper level and sometimes at the surface level. Different models have been proposed with differing theoretical implications—structural grammar, different models of generative grammars, systemic grammar and what not. Each one has got his or her own definition of 'grammar' and often one gets lost in the jungle of jargon because each theory has its own jargon.

How Much Grammar and for Whom ?

Is grammar to be taught in a school or college where the medium of instruction is English ? If the speaker has a good command of the language, what is the use of learning facts and the terminology about a process that is already an established habit and an effective mode of communication ? If, however, the speaker has not acquired even the basic vocabulary, why should he or she learn facts and the terminology about a medium of expression that he has not managed to use ?

For What Purpose ?

Is grammar to be taught for the sake of knowledge or, as Russel says, 'a source of discovery', perhaps as part of liberal education ? Is it for teaching the parts of speech, inflexions, paradigms, conjugations, definitions, sentence analysis and synthesis ? Is it for reference purposes to look up the relevant information in a grammar book or in a dictionary where information about verb patterns is given ? Is grammar taught for better speaking and writing—for practical use ?

If It is to be Taught, How to Teach It ?

As a result of the lack of clarity in the three areas mentioned above, methodological problems are left to the teachers. Though the 'average teacher' may appear to be a dreadful weapon with which one can beat any theory, it is good to know what 'the average teacher' makes of any theory. Whatever be the theory, a lot depends on who teaches what to whom and for what purpose.

In the Indian context there are three distinct methodologies. One is the training college methodology—the Herbartian steps and all that; the second is the methodology advocated by the ELTIs and ELT experts—structural, communicative, etc.; the third and the most important one is the methodology of the not so well equipped teacher, trying to teach his own variety of English under very, very difficult circumstances to a very large number of largely unmotivated groups of learners who do not know why they are learning English. The training college teachers and ELT experts try to formulate and demonstrate a theory in an experimental set-up. As experiments they might work; but the 'average teacher' does not work in an experimental set-up.

Another important factor is that Indians (and perhaps, Orientals in general) love literature and grammar. That is why Shakespeare and the grammar-translation method became the two natural resources of English in India. Even after independence, in spite of the new found importance for the Indian languages, fervent nationalism and an aversion to everything English, Shakespeare and the grammar-translation method continued to flourish despite all the developments in the USA, refinement of the Direct Method in Japan by Palmer, the publications of French and Hornby, Michael West's Reading Method, and such other developments in the other parts of the world. Only in 1952, Jean Forrester brought to India the first structural syllabus produced by the Institute of Education, London University. The New Approach, as it was called, had some influence on the training colleges in India and the books of Ryburn, Champion, Palmer, Hornby and West were used in training colleges. But 'the average teacher' used his grammar method to teach a textbook based on the Direct Method or the Structural Syllabus. Most teachers are reluctant to do away with formal, explicit grammar and the learners expect it in a language class in the hope that 'grammar' will give them the ability to use the language. The position is essentially the same in the early eighties as those in the earlier decades, except for the labels. Sanskrit has always been taught with the help of literary texts (Kaavya) and grammar (Vyakarana). Hindi is taught to non-Hindi speakers in the same fashion. An Indian language is taught to an Indian who does not know the language, using literary texts, grammar rules and translation as a technique. Languages like French, German and Russian are taught in the grammar-literature-translation method. This has become an essential part of the language teaching tradition

The ELT 'experts' have been talking about TEFL, TESL, TESOL, EST, ETP, ESP and several other initials. What happens ultimately is EEP (English for Examination Purposes)! There are quite a few fashionable theories floating around. The latest catchwords heard in conferences, seminars and discussions on language teaching like the communicative approach, procedural syllabus, the monitor model, the acquisition/learning distinction, inter-language, care-taker speech, the usage-use distinction, signification and value, fluency versus accuracy are ELT curios now; teachers look at the people discussing these things as people watching a circus and return home saying: 'They can do it, but we can't'. Some who are enthusiastic, try to imitate the super-stars with varying degrees of success or disaster!

The realities of the situation have not been taken into account, unfortunately, by the 'experts'. The phenomenal increase in the number of students and teachers in India at various levels has created several problems like indiscipline among students as well as teachers, mass copying, teacher training, providing physical facilities, making available materials, etc.

In 1980-81 there were abcut 120 universities and 5000 colleges with a total enrolment of about 40 lakh students This excludes the enrolment in PUG/Intermediate and Junior colleges, and Pre-professional colleges

In 1980-81 there were about 13,50,000 primary school teachers, 8,50.000 middle school teachers, 9,02;000 secondary school teachers and 2,00,000 in the university departments and colleges; the number keeps on increasing year after year.

These teachers and learners have at least 14 major linguistic backgrounds with all sorts of variations in each language according to the 1971 census there were at least 25 million users of English with varying degrees of proficiency in the language. The learners are exposed to all varieties of English inside and outside the classroom. India is, perhaps, one of the very few democratic countries where English teaching is attempted on a massive scale. There are only a dozen ELTIs, about 500 Colleges of Education and about 900 Training Schools; it is almost impossible to train even a small percentage of teachers teaching English.

What is to be Done ?

It seems that since the body of knowledge (i.e. English) to be transmitted is quite complex, the motivating factors (or the absence of them) may be as varied as there are individuals and the individuals to receive it are enormously large, and the sociological forces that are assumed to be at work in supporting environments are extremely complicated, the English teaching enterprise must be equally extensive and complex.

In any modern pluralistic society the English teaching enterprise must be pluralistic in planning and implementation and varieties of English learning opportunities must be made available to the learners. The theoreticians and syllabus-makers should abandon mono-methodological approaches like one syllabus and one book for one nation or community—structural, notional, procedural or communicative. A pluralistic poly-methodological plan of action is to be advocated—may be grammar-translation, structural-direct, structural-bilingual, functional, notional, literature-based, communicative, whatever—leaving the choice to learners. Surely there is no one road; there must be many. At the same time, just advocating an eclectic or negotiated approach will mean asking the ill-equipped teacher and the learner, who are not in a position to select or negotiate, to be omniscient. The actual materials will have to be made available Several syllabi and mini and maxi language-on-demand courses are to be evolved (with provision for tests that could show the individual's style and progress of learning) so that any learner at any level who wishes to learn a foreign or second language for any purpose for any length of time using any medium he likes will be able to do so at his own rate and speed in school or out of school, using a method (or methods) that is best suited to him. If a learner feels that a bilingual or comparative method agrees with his personality and cultural style of learning, if someone else feels that he is interested in and can bear and learn from an intensive study and repeated reading of some good pieces of literature, the experts have no business to tell him that he is following the wrong method.

Instead, trying to teach the parts of speech and sentence analysis to one and all is as unrealistic as teaching Shakespeare and Shelly to every one. In the class the teachers of English literature 'fall upon the thorns of life' and they bleed and the teachers of English grammar are in the subjunctive mood ! In both the classes the learners remain illiterate in English. Language analysis as well as literary appreciation presupposes a sound knowledge of the language. Some have it but not all. Those who have the language sensibility, if they wish to learn grammar or literary appreciation, should not be denied the opportunity, but, for the majority what is needed is neither literary interpretation and appreciation nor grammar in the conventional sense but the ability to use English. If the ability to use English effectively can be built up, the teaching of grammar and literary appreciation can become productive at a later stage. As it is, the table of teaching grammar is a tragedy.

What is Intelligence?

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INTELLIGENCE is a house-hold word, very commonly used by people of all walks of life. There are two approaches to get at the meaning of intelligence : (a) Implicit Approach and (b) Explicit Approach

Implict Approach

As per this approach meanings of intelligence reside in the minds of the people. Since these meanings already exist, the psychologists have only to discover rather than create them. The data for research on the implicit approach are people's communications regarding their notions as to the nature of intelligence.

But whom should we ask about intelligence ? In 1921, 14 experts were asked what they understood by intelligence (intelligence and its measurement, 1921, p 123). Among the definitions given, were included the following:

1. The power of good respones from the point of view of fact (E.L Thorndike).
2. The ability to carry on abstract thinking (L.M. Terman).
3. The ability to learn to adjust ourself to the environment (S.S. Colvin)
4. The ability to adapt oneself adequately to relatively new situations in life (B. Pinter).
5. The capacity for knowledge and knowledge possessed (V.A.C. Henmon).
6. A biological mechanism by which the effects of a complexity of stimuli are brought together and given a somewhat unified effect in behaviour (J. Peterson).
7. The capacity to inhibit an instructive adjustment (L.L Thurston).
8. The capacity to acquire capacity (H. Woodrow).
9. The capacity to profit by experience (W.F. Derrborn).

In this approach intelligence will have as many definitions as the number of experts. But broadly speaking two themes run through all these definitions—(1) the capacity to learn from experience and (2) adaptation to one's environment. More recently, Ferguson (1954) has viewed intelligence in terms of ability to transfer training and Piaget (1972) has defined intelligence in terms of one's adaptation to the environment.

An other approach to study implicit theories has been suggested by Neisser (1979). In his view intelligence is organised around an ideal case, or "prototype". One's intelligence is defined by the degree of resemblance to this prototype. Since there exist multiple prototypes there would be no validated concept of intelligence. This implicit theory approach would surely tell what people mean by intelligence and not what intelligence means.

Explicit Theories

Under this approach some basic units of ability have been proposed which explain individual differences in intelligent behaviour. The three basic units of ability as identified by different scholars are:

1. S—R Bond
2. The Factor
3. The Component

1. *S—R Theories*

It was proposed by Thorndike (1928). It viewed intelligence primarily in terms of the ability to learn, i.e. building of simple SR bonds. Gagne (1970) has identified eight kinds of learning which differ among themselves in both the quantity and quality of the SR bond involved. From the simplest to the most complex, these are:

(a) Signal learning (Pavlovian conditioning)
(b) SR learning (operant conditioning)
(c) Chaining (complex operant conditioning)
(d) Verbal association
(e) Discrimination learning
(f) Concept learning
(g) Rule learning
(h) Problem solving.

2. *Factor Theories*

In most traditional investigations of intelligence the basic unit of analysis has been the factor. The paradigm has been called differential, psychometric or factorial on the basis of tetrads (a set of correlations) worked out by finding intercorrelations among mental tests placed in columns and rows in order Charles Spearman (1927) gave the earliest factorial theory—the two-factor theory of intelligence. According to this theory, intelligence comprises two kinds of factors, general factor (g) and specific factor (s). General ability (g) as measured by the general factor is required for performance on mental tests of all kinds. Each specificability (s) as measured by each specific factor is required for performance on just one kind of mental test. Thus there are as many (s) factors as there are tests but only a single general factor. Spearman suggested that the ability underlying this general factor could best be understood as a kind of mental energy.

Thompson (1939) disputed Spearman's claim that the general factor represented a single underlying source of individual differences. Instead he proposed that the appearance of a general factor was due to the working of a multitude of mental bonds including reflexes, learned associations between stimuli and the like. Performance of any particular task activates a large number of these bonds. Some bonds will be required for the performance of virtually any task requiring mental effort and these bonds in combination will give rise to the appearance of a general factor.

Thurston (1938) accepted Spearman's hypotheses of a general factor but he argued that it is only a second order factor or phenomenon, one which arises only because the primay or first order factors are related to each other. Among these first order factors or abilities Thurston included verbal comprehensions, word fluency, number, spatial visualization, perceptual speed, memory and reasoning. Guilford (1967) refused to acknowledge the existence of general factor at all, in human intelligence. He has proposed that intelligence comprises 120 elementary abilities, each of which involves the action of some operation upon some content to produce some product.

But the most widely accepted factorial description of intelligence is a hierarchical one. Jenson (1970) views intelligence as comprising two levels—associative learning ability (called level I) and conceptual learning and problem solving (called level II). Vernon (1971), accepting Spearman's (g) factor, proposes that intelligence can be described as comprising abilities at varying levels of generality. At the highest or most general level is a general factor, encompassing all tasks. This is followed by (1) major group factors including a verbal-educational factor and a practical mechanical factor, (2) minor group factors, and (3) specific factors

Cattell (1971) has proposed a theory that the general factor (g) noted by Spearman comprises two sub-factors : (1) crystalised ability (measured by tests such as vocabulary and general information) and (2) fluid ability (measured by tests such as abstract analogies and abstract series completion).

Hakstian (1978) extending the work of Cattell (of course in collaboration with Cattell himself) argues for higher stratum capacities of visualization capacity, general perceptual speed, memory, and general retrieved capacity in addition to crystalised and fluid intelligence.

Cognitive Approach (the component approach)

There is no particular theory under this approach. A common element in most of the theories under this approach is a unit of analysis that can be described as elementary information process or component. This is a unit or process that operates upon internal representation of objects or symbols. The component may translate a sensory input into a conceptual representation, transform a conceptual representation into another, or translate a conceptual representation into a motor output. What is labelled as a component depends upon the desired level of theorising. Under this approach researches attempt to analyse directly the processes involved in intellectual behaviour rather than trying to find behavioural correlates of such behaviour.

All these approaches are not mutually exclusive; on the contrary, they are complementary. S-R theorising concentrates upon the external or environmental contingencies that lead to various kinds of responses. And factorial and componential theorising concentrate upon the internal effects of these contingencies. Factorial models tend to be structural ones, although they often contain clear implications for understanding information processing, componential models tend to be process ones, although they often contain clear implications for understanding how information is structured. Sternberg (1980) proposes that factors can be understood in terms of components. But components should not be viewed as superseding factors since for at least some educational purposes (as predicting performance) factors are probably still the preferred unit of analysis. For other educational purposes (such as training performance) components are probably the preferred unit of analysis (Sternberg, 1981).

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Integration of Community with School

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In the distant past formal education as it exists today was unheard of Each family performed the duties that are now entrusted to teachers at school. Of course, life was less complex during those days and whatever the youngsters needed to learn and master was pretty well known to the elder members of the family. Education was looked upon as an apprenticeship period for every one to learn the family trade or skill. No two families vied with one another and caused disintegration of community. Even where similar training was imparted there was a feeling of partnership and goodwill that formed the substratum. The quality of life was sublime and simple even though, sociologically viewed, it might have seemed unsophisticated and slow-paced.

No society could remain forever static and complacent With the blossoming and ever-broadening perspectives of knowledge, family-folks realised their inadequacy to be the sole mentors for their wards. Knowledge expanded in depth and diversity and the community realised that it would be prudent to hand over the responsibility of educating youngsters to established institutions The founding fathers of formal institutions never fancied that some day the forging links between community and school would be snapped. Schools have started functioning rather autonomously and some times arrogantly too disregarding the needs and aspirations of community wherein these were situated. To some extent parents have to be held responsible for this sordid state of affairs. Whoever declared that parents should abdicate their rights to mould their children to the formal institutions, that have sprung up like mushrooms ? Many parents found an 'alibi' on the plea that they were preoccupied with family problems and professional commitments that left little time for the real 'education' of their children. Over the years it had bred irresponsibility among parents and non-accountability among school authorities. Hence the need for reintegration of community with school.

A child spends hardly five or six hours at school and even this gets distributed to acquiring tit-bits of several disciplines in different periods from different teachers Rest of the day he is at home or among peer-groups in a residential locality. Occasionally he might stray away and seek refuge in a cinema-house or participate in healthy out-door or indoor games. A few decades ago play-grounds in school would attract students outside school-hours and a few might linger on the grounds till dusk. A metamorphosis has taken place in recent times. Very few willingly play vigorous games and exercise their muscles. Either they hang around classrooms for extra-tuition or they rush back home to do home-work or work assigned by home. Many parents positively discourage their children playing at school beyond class-hours because in their considered opinion this is tantamount to waste of time. In their myopic view of education, schooling is equated with stuffing mind with whatever is printed in textbooks that could be regurgitated in examinations. They seldom realise that a sound mind in an unsound body is a dissonant phenomenon. It was not the case in the history of mankind. Education was conceived of as training the body as well as the mind. Proportionate time was allowed for both, with the result that youngsters were not only well-informed but robust as well! Community activities gave immense opportunities for exercising limbs and each community was a self-sufficient unit in all respects. It encouraged variety, virility and virtue that sound an anachronism today.

An apology for a nexus exists in some schools in the name of Parent-Teacher Association. This usually begins with a bang and ends with a whimper. The Head of a school is so preoccupied with the administrative rigmarole that he is left with little energy and enthusiasm to convene Parent-Teacher Association meetings. If at all such meetings are to be held, it has to be only during week-ends. Many parents, literate as well as illiterate, look upon such meetings as unwelcome intrusion into their plans for outing or simple relaxation at home The thin attendance in a few meetings discourages the Headmaster from summoning subsequent meetings. It is a Herculean task for the Headmaster to collect his own colleagues in the context of the frozen relationship that prevails in most institutions. Even if he is in a position to prevail upon them to attend such meetings, it is anybody's guess how the meetings would be conducted. A few overzealous parents might unwillingly cast aspersions on some teachers that would receive scorn and epithets of derision. The parents might regret their attending while the Headmaster would be sorry for summoning them. Far from bringing school and community closer together, the PTA meetings might widen the gulf all the more.

Another prevailing practice of establishing links with parents by school authorities is to send Progress Reports of their wards. In early stages of schooling both teachers and parents take to this practice religiously and the teachers would insist on parents' signatures on the Report Cards as a proof of scrutiny by parents. Many teachers would write comments—cryptic or descriptive—in addition to the entry of marks. The pupils would choose an appropriate occasion to produce the cards before the parents so that they could escape the avalanche of rebukes for their poor performance. The episode is soon forgotten and they relapse into their poor study-habits. Some parents undertake the pilgrimage to school to request the class-teacher to bestow special attention—which means private tuition beyond or before school-hours. Some students do benefit out of such remedial measures while some remain immune. This scourge of private tuition has become so pervasive that many teachers are tempted to shirk good teaching in regular classes and collect many students for private tuition. It has reached an all-time high in recent times that it would be next to impossible to check this unethical practice.

Here are a few suggestions for bringing school and community closer. Instead of waiting for an invitation from school, parents could visit school periodically, meet the class-teacher, exchange views on the progress of their wards in a way that would not hurt the pride and self-respect of teachers. Parents belonging to affluent sections could visit the library, laboratory and play-rooms and voluntarily donate in the interest of all school children. Would not the Headmaster feel proud of having a few such parents ? For various reasons a school may not be in a position to equip library or laboratary properly.

Educated parents—particularly housewives—could volunteer to teach some classes, if they have the requisite expertise, with prior consultation and also without causing embarassment to regular teachers. It may so happen that teachers for a few subjects may not be appointed either because the previous incumbent has relinquished or a trained teacher may not be readily available. If the Headmaster has the bio-data of parents, he could get in touch with them when such crises occur. Parents also would realise how difficult indeed it is to manage a class ! They would refrain from unjust criticism of school in future.

Infinite are the ways and means of establishing closer links between the two powerful agencies—school and community—that make or mar the development of children. All that it calls for is a reciprocal trust and goodwill and also willingness to sacrifice one's time and resources, keeping in mind, that in the hoary past, parents had to perform the role of teacher. Poor standards should not be glibly attributed to poor teaching alone ! Would it not be due to poor parentage as well !

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Values in Relation to Religious and Moral Education

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A few problems stand so positively at the educators' elbow as those involving questions in values. Education is directly concerned with values at a number of points. To state one's aim of education is at once to state one's educational values. If a student is interested in his work, it means that he values it. Teachers attach values by marks or grades. The evaluation goes on continuously.

Kinds of Values

There are two major categories into which values can be divided—desired and desirable. The desired values become desirable when they pass through the social frame of reference.

All desires are not of equal worth. There is not enough time to realize even every worthy desire. So we must choose between desires.

Instrumental Values

These values are judged good. They are good for something. They help in achieving some other ends. In drawing up a curriculum, we must take into cosideration what subjects or values should be included. If a student wants to become an engineer, then science and mathematics have the greatest value for him. These subjects have an instrumental value for him, for they help him in becoming an engineer. Instrumental values are subjective and selective to people and situation.

Intrinsic Values

These values are judged good not for something else but in and of themselves. Their value is self-contained. Pupils write on desk and put their books No other piece of furniture can be replaced for the desk. So, desk is of intrinsic value. This value inherent in desk is objective rather than subjective.

Aesthetic Values

It means values which may be subject to intensified appreciation. There is a tendency in education to restrict aesthetic values to a restricted range of subjects such as music, dancing, painting, modelling and literature, specially poetry.

But there are educators who think that this is a narrow range and even subjects like geography and mathematics can be appreciated by pupils. But this habit of intensive appreciation cannot be forced. It needs intellectual qualifications surcharged with emotions.

Example : Which book for general English is to be prescribed by the Board of Education ?

1. If economy is emphasised, a cheap book is to be selected.
2. If only educational advantage is emphasised, then a book suited to the age group is to be selected.

'Religion is the recognition of all duties commanded'

—Kant

'Religion is morality tinged with emotions'

—Mathew Arnold

Secular and Religious Philosophy and Education

The areas of religion and morals offer a peculiarly fertile field to stimulate the growth of diverse aims of truth, reality and values. Secular schools often direct instruction in religion but in secular schools moral education is imparted to students not directly but indirectly.

But there is a question : Can morals be taught satisfactorily apart from religion ? Those who think that morals cannot be taught apart from religion, provide religious and moral education privately at home, or the Church or the like. But here also there are marked differences of opinion on the nature of religion and morals.

Some think of religion in broad humanistic terms. Others understand it only in terms of supernatural. The former group motivates children to be moral because it leads to the most satisfactory social adjustment. The latter takes religion as the will of God.

Secularism

There are people who are inclined to turn away from religion. They wish that their students should try to meet the main social and scientific demands of the every-day world about them.

These secularists think that the future is uncertain and the secular child is anxious about his adjustment in future like the religious child. But the secular child seeks this adjustment not in the worship of supernatural powers, but in the obedience to natural laws. The secularist trains his child in scientific methods, scientists are his highest priests and scientific doctrines are the basis of his religion.

But this does not mean that the secularists disregard spiritual values. They like that the school should be deeply spiritual. Democracy stands for the essential dignity and equality of man irrespective of his colour, creed and sex, so in such a set-up all should have equal access to spiritual values Secular schools are the gift of democracy. It is not a loss to religion. Secular schools are bringing together children of all walks of life having different faith, caste, creed and sex. It is a significantly religious task. Religion divides whereas secularism unites. They (secular schools) are creating social unity, they are laying the basis on which any ultimate brotherhood of men must rest. Religion asserts priority of faith over reason and secularism is just the opposite of it.

Humanistic Religious Education

For most educators, this quest of 'plus' values beyond secularism centres in some conception of God. With the many questions that arise, the humanistic religious educator is inclined to make his approach to God through the agency of human experiences. The humanist does not care for holy scriptures but tries to make his acquaintance with God through science and relationship. He believes in a social theory of religious education. He knows two great commandments : Love God and Love Neighbour. To learn these two commandments, humanists depend upon education rather than priests and on human rather than divine initiative.

This is also the progressive philosophy of education, i.e. to place dependence on human initiative and human experience. Here to teach and to learn religion is a creative experience. A youth not only comes to a religious understanding of God through his experience but he constantly reconstructs his notions about God

But, is human nature sound and strong enough and is it not pride and lack of humanity on the part of man to assume that God is what pupils and teachers creatively learn He is ? Does not their anthropomorphism cause them to forget that it is God who created them and not they themselves ? To all these questions, the only answer a humanistic religious educator has to offer is that 'His approach to religion is through human experience'.

Theology of Education

Humanistic religious education is a step beyond secularism but is still sort of what religion properly demands of education. Humanist suspects that the failure of mankind to go further is due to the fact that humanism is infected with secularism. To humanists, religion is nothing if God does not come within human experience.

God is naturally the father of mankind. Man should bow down before his Maker. If it is so, he will not rely on human experience to realize God. It is gravely misleading to forget that God is our Creator.

A theologian educator starts with divine thought about man. For him, God is too high, too bright to be seen with the eyes with which every thing is seen. The teacher can inform the student about revealed truths, hold them up as a motive for his conduct, show him by example how to follow them.

Moral and Character Education

The primary question here is : Can a school teach morals successfully without placing them in religion's context ? The secular schools have long taught moral education—without mention of religion. Humanists say that social and moral concepts are one and the same To a theologian, moral law is divinely ordained.

Which of these theories is profound ! How can the contents of a curriculum be determined in moral and character education ? Then, how to make a child virtuous even after putting all the five things of morality and character in the curriculum ?

There is one question to be asked : Has youth a moral obligation to develop his talents ? This is of his own choosing. But if he fails, he will have to pay for it.

Moral education will prove useless if there is no opportunity for the child to practice what the school church preaches. There should be fieldtrips and other community activities.

Major Philosophies of Education

Religious Philosophy of Secularism

Secularism has no religious point of view and regards secularism as religion. This philosophy limits itself to nature and the judgment of play and social sciences. To it, morals are conduct patterns which men in association with other men over the centuries have found most productive of human happiness and welfare. All that lies beyond human experience is speculative.

Religious Philosophy of Humanism

A humanist is not satisfied with a secularist. He makes a search for God. But he does not have traditional supernatural approach. He puts his faith in man and man's experience. A humanist approaches moral education just as a secularist.

Religious Education Dominated by Theology

These educators worship a God who has created them and not a humanist God who has been created. The chief aim of education is to make men able to worship God.

Adjustment Pattern of Visually Handicapped and Sighted Students

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IT is a bitter fact that there are many sections which are deprived and left away from the main stream of society in India. One of these sections is of the handicapped which forms a sizable group among them. Staggering figures indicate that about nine million blind are dumped into the dayless gloom. Of all the categories of handicapped, it is blindness that evokes an instant feeling of helplessness and a feeling of despair of leading a dependent future for the rest of life Undoubtedly the lack of vision adversely affects their mobility, orientation and learning of efficient living skills.

The visually handicapped children and youth are those who learn through the use of Braille or related media without the aid of vision, even though they may be able to perceive light and use it for orientation and movement. So many factors may be responsible for this type of handicap as malformation, injury and other biological factors, etc.

The visually handicapped children and youth face some problems with social interaction that are caused indirectly by their inability to see. It is experienced that they have some personality problems, as they have a lower level of aspiration (Ali and Khan, 1982), are more introverted and have more neurotic characteristics than the sighted children (Zerhan, 1965; Brown, 1938).

There is no distinct personality type produced by blindness, other's attitude and reactions to them are likely to shape the way they perceive themselves and relate to others. The visually handicapped have been exploited and are generally considered as the most useless and helpless persons of society. People either have an excessive pity feeling or a sense of rejection for them and they are not genuinely accepted as a part of society. A common mistake made by the whole society is to assume that a visually handicapped individual cannot pass his/her life independently. This deeprooted feeling tends to make their adjustment difficult (Sommers, 1944; Hubbard, 1945; Gupta, 1982; Sharma, 1977, Kaur, Singh and Jain, 1984). Sommers (1944) also studied mother's feeling towards the visually handicapped and the reactions were grouped into five categories : (1) genuine acceptance, (2) denial of either of the parents of the child, (3) over-protectiveness and excessive pity, (4) distinguished rejection, and (5) over-rejection.

Except genuine acceptance, all the reactions hamper their adjustment. As Imamura (1965) observed, during the early years mother's excessive pity and over-protection tend to develop dependent behaviour. Scott (1969) lays the blame for dependency of blind on the organisations, agencies and programmes for the visually handicapped. They become dependent on agencies for a number of services and employment, etc. As Lowenfeld (1973 b) aptly remarked : "The pity felt by many for visually handicapped causes them to learn no other skills" because they are taught to play a dependent role. Besides this, sometimes they are neglected, rejected and are not accepted by peers or may in fact be ignored and isolated in the classroom (Drigger, 1983; Bateman, 1964). Ascroft (1963) concluded after reviewing the opinions and studies that negative attitude towards visually handicapped and their own negative self-regard may produce personality problems in them.

Apart from personal and social problems, the visually handicapped children have some cognitive problems due to the lack of vision experience. They have a limited capacity to perceive objects. They have to wait for contact, sound or smell to arouse their curiosity. They cannot see other children moving towards and reaching for the toys and other interesting objects They are deprived of a visual model to imitate No doubt these limitations affect their cognitive abilities. Their intelligence quotient is little below than average (Hays, 1941; Bateman, 1967; Livingstone, 1958). Their imaginativeness, comprehension of conceptual task and abstract thinking are poorer than sighted ones (Singer and Streiner, 1966; Friedman and Pasnak, 1973; Suppes, 1974). These shortcomings may create problems in learning and they may not be very well adjusted in the present educational settings Therefore in the present investigation an attempt has been made to measure the adjustment along with the emotional and social adjustment of the visually handicapped in comparison to the sighted students.

Procedure in Outline

The adjustment inventory for school students by A. K. P. Sinha and R. P. Singh and the socio-economic status scale by B. Kuppuswamy were administered to 80 students (40 visually handicapped and 40 sighted students) of the age-group 14-18 years belonging to two schools of Dehradun.

Analysis of covariance was employed to find out the significance of the difference between the means of different dimensions (emotional, social and educational) and total adjustment of the visually handicapped and sighted students. The effect of socio-economic status was eliminated in the present study.

Hypothesis

It was hypothesized that :

1. There is a significant difference between the emotional adjustment of visually handicapped and that of sighted students
2. Sighted students are socially better adjusted than their counterparts, i.e. visually handicapped.
3. There is no significant difference between visually handicapped and sighted students on educational adjustment.
4. Visually handicapped students differ significantly on total adjustment (emotional, social and educational).

Method

Sample

The sample consisted of 40 visually handicapped and 40 sighted students (boys and girls) of the age-group 14-18 years, studying in a middle school for the visually handicapped (Dehradun) and a local school for the sighted students, respectively.

Variables

The present investigation includes two variables, viz. Predictor variable (Adjustment—social, emotional, educational and total) and Control variable (socio-economic status).

Tools

The following tools were used :

1. Adjustment inventory for school students by A. K. P. Sinha and R. P. Singh to measure different dimensions, i.e. emotional, social and educational and total adjustment.
2. Socio-economic status scale for urban students by B. Kuppuswamy to measure the socio-economic status of the students.

Collection of Data

The data were collected by individual interview of the visually handicapped students as the Braille version of the tools was not available to the investigator.

The interview technique was also applied in the case of the sighted students to partial out the effect of the interview technique on their responses.

It was experienced by the investigator that children have a tendency of providing erroneous and false information about the designation and income of their parents/guardians. Therefore to avoid it and to know the correct and exact information about their socio-economic status, the investigators consulted office records also and thereby came to know the real income and occupation of the parents/guardians.

Data Processing

Analysis of covariance was employed to find out the significance of difference between the mean scores of different dimensions of adjustment of the visually handicapped and the sighted students, eliminating the effect of socio-economic status on adjustment.

Analysis and Interpretation of Data

Emotional Adjustment

The adjusted mean scores of the visually handicapped and the sighted students are 5.969 and 4.380, respectively. The obtained F value (11.128) is significant at 0.01 level of confidence with a degree of freedom 1 and 77.

Thus our previous hypothesis about emotional adjustment is accepted. Our findings also find support in the studies of Sommers (1944), Sharma (1977) and Kaur, Singh and Jain (1984). However, the study of Sublok (1976) does not support this view.

Social Adjustment

The obtained adjusted mean scores of the visually handicapped and the sighted students are 9.20 and 6.72, respectively. The F value (13.96) has been found highly significant at 0.01 level of confidence with the degree of freedom 1 and 77. This finding approves the hypothesis that sighted students are socially better adjusted than visually handicapped students.

This finding is corroborated by the studies of Sommers (1944) and Fraiberg (1975) while it contradicts the findings of Kaur, Singh and Jain (1984).

Educational Adjustment

The adjusted mean scores of the visually handicapped and the sighted students are 5.287 and 3.612, respectively. The F value is 6.175, significant at 0.05 level of confidence. This indicates that sighted students are educationally better adjusted than visually handicapped. This rejects the hypothesis that there is no significant difference between visually handicapped and sighted students.

Total Adjustment

The obtained F value (6.22) is significant at 0.05 level of confidence. The adjusted mean scores of the visually handicapped and the sighted students are 19.94 and 15.23, respectively, indicating that sighted students are better adjusted than visually handicapped on total adjustment.

It approves the hypothesis that there exists a significant difference on total adjustment.

Conclusion

From the foregoing interpretation it has been concluded that visually handicapped students are poorly adjusted in emotional, social and educational adjustment than sighted students. The same condition prevails as regards total adjustment.

Suggestions

The following suggestions are being given here on the basis of the conclusions drawn from the findings of the present study :

1. Since visually handicapped children are emotionally maladjusted, it is of prime importance that parents, elder members of the family and their teachers should play a prominent role in providing them a feeling of emotional security. They ought to be treated as persons with respect for their right to help them to develop in them initiative and self-reliance, but always with awareness of their physical, emotional and intellectual limitations. To make the parents and teachers aware of their role, there is earnest need for establishing guidance and counselling services for parents and teachers.
2. Another major threat to adjustment of visually handicapped children is the lack of genuine acceptance by parents, sighted peers and society, which is identified as one of the main reasons for their social maladjustment. It is suggested that the family as well as society should be properly disposed towards their genuine acceptance regardless of their handicap. All efforts should be directed, therefore, towards creating a proper understanding of the problem Excessive pity and mercy will only aggravate their. maladjustment. A rational approach providing a conducive environment has to be made to cultivate self-confidence, self-sufficiency and self-worth in them.
3. The findings of the present study show that visually handicapped students lag behind their sighted counterparts in the field of educational adjustment. Lack of visual experience, restricted mobility, ineffective educational setting and lack of dedicated teachers are the main precipitating factors responsible for their maladjustment. It is, therefore, suggested that they should be helped not only to make use of the remaining sight but also to utilize other senses such as tactual, kinesthetic, auditory, olfactory and gustatory to optimum as these will enhance their language and communication development. Special aids and equipment like Braille literature, large print books, low vision aids, Braille typewriters, tape recorders, recorded teaching material, talking books and other sensory modalities should be provided adequately for each of the educational settings for visually handicapped. An adequate number of dedicated and talented teachers should be recruited and trained for teaching the visually handicapped. The number of existing schools and vocational training centres is not enough to cope with the need. More such small settings need to be added at district or zonal

levels to make the facility available within the reach of most of the visually handicapped children.

4 To make the visually handicapped feel adjusted in the area of total adjustment, the aspirations of the visually handicapped should always be kept in mind, apart from providing other needs to them. A secure future will help them a lot in their adjustment. More vocational avenues and opportunities in public and private sectors should be made available to them

Suggestions for Further Research

The investigators feel that the present study is not sufficiently representative and adequate, because they had limited time and financial resources, and therefore suggest the following points for further research :

1 Other dimensions of adjustment should be included in future such studies.
2. Variables other than socio-economic status are also known to bias the relationship between psychological factors and visual handicap. Therefore attempts should be made to control the effect of other variables also
3. Overall adjustment of visually handicapped should be studied in the context of the personality and attitude of parents and teachers to know the causes of adjustment problems.
4. Adjustment should be studied in the perspective of sex and duration of blindness.

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Effective Classroom Management

TEACHER-EFFECTIVENESS in a classroom situation is, to a considerable extent, a reflection of the overall school atmosphere which, in turn, results from a variety of inter-acting factors like the leadership provided by the head and the ethos built up by the teachers in general The concept of discipline which is upheld by the school as such also plays a vital role in the individual teacher's performance in the class he is called upon to engage. The supportive role played by the senior colleagues goes a long way in boosting the morale as also the efficiency of the younger ones by giving them timely guidance in many ways. Even so the approach of an individual teacher in the classroom contributes to his own effectiveness.

Very often a teacher enters the class sufficiently late, thereby giving a congregation of thirty and odd children an opportunity to loosen up and to get out of gear as it were. Whenever possible a teacher should be present in advance to receive the class and help in orderly seating, not necessarily in the traditional manner but in groups where specific activities may be assigned. Necessary preparation for the lesson—arrangement of teaching aids, blackboard work and arrangement of other teaching materials, etc.—should be made in advance After the greetings are exchanged, the lesson should be taken up promptly and in all seriousness. Thus the stage is set for work and the children understand that the teacher means business.

The content of the lesson with its well-defined objectives has to proceed systematically. The plan of the lesson should be thought out and executed, as far as possible, in a way involving some activity or active participation of the children who may preferably be divided into convenient groups. Laslett and Smith (1984) advocate what they term as Rota, Quota or Branching approach. Rota refers to groups being allotted specific activities like operating on worksheets, working with a cassette, collecting information or doing some drawing work Thus three or four centres of work are created on which the groups take their turn in rotation. The Quota system, likewise, requires the groups to complete a specific assignment in accordance with their ability or aptitude, during the session 'Branching involves starting all the class together on a particular activity like doing an exercise from the board or working together from a textbook, then, as this is completed, 'branching' groups into different activities or areas of the room. For the quicker workers who are likely to finish the common activity first, there may need to be a number of further pieces of work. The above approach would necessitate classifying children in particular groups, seating them in a way that group work progresses smoothly and allocating to each group carefully thought-out activities

It is not difficult to see the advantages of the above approach, which is more easily applicable to elementary stage, as against the passivity which marks the traditional classroom approach. The upshot of the system is that activity or active participation by children leads to more effective classroom management and contributes to better learning

The questioning technique is an instrument in the hands of a teacher which he can employ in managing his class successfully. Evenly distributed questions engage the entire class purposefully and the children keep alert. Responses from the children should be carefully handled and an attempt should be made that poor responses are not denigrated so as to discourage weaker students. Whenever the responses are wrong or inadequate, it might be an occasion for the teacher for coming out with clearer exposition of the topic being dealt with Right and good responses should be met with adequate recognition from the teacher who is expected to suitably praise them. While asking questions the teacher need not necessarily position himself near the table. He would do well to move round the class (here the arrangement of seats has to be suitably adjusted) and address a few sentences on the topic being discussed to one child in one part of the room and then pass on to another corner and address a few sentences to another child. Shifting of gaze in this manner and scanning different corners of the room has been described by Marland (1975) as the 'Lighthouse' technique.

The concept of reward or reinforcement and punishment is yet another device for managing the class effectively as also for promoting learning and inhibiting behavioural lapses. Very often a right answer is praised by the use of an adjective 'good' or 'nice'. Laslett and Smith (1984) point out the desirability of using a variety of appropriate adjectives like—'great', 'superb', 'fine', 'splendid', 'original', 'interesting', 'beautiful', etc. However, care has to be taken that the praise is natural and sincere and at the same time balanced. Hopkins and Conrad (1976) are of the opinion that whatever ample praise is used in teaching, behaviour does seem to be better. There are various types of reinforcements that can be made use of by the teachers. The system of giving points or credits should be employed judiciously. Very often it is house-wise but all that need be done is that teachers should agree upon the specific areas for which the credit is to be given and work out the exact modalities. It has also to be borne in mind that whatever be the mode of reinforcement strict fairness has to be the guiding principle. Apart from this another device which some educationists call 'contingency-contracting' is also used as a reinforcement agent. This means that a certain facility is offered to the children in lieu of their performing a certain task set to them by teachers. It amounts to saying that 'first you work then you play'.

As for punishment, it has been found to have a negative effect. As a short-cut to a disciplinary problem that confronts a teacher in his routine classroom work it tends to serve as a negative reinforcement agent evoking anxiety or fear. Such feelings of anxiety and fear lead to a withdrawal from the learning and are generalized i.e. they affect other areas of behaviour The worst form of punishment is the corporal punishment where the child develops feelings of hostility or antagonism against the teacher and his learning is seriously inhibited. E. Stones (1966) notes that 'punishment can be used to get rid of undesirable activity but it is of doubtful value in getting children to learn anything'. In a survey, the Americans, Kennedy and Wilcutt found that 'praise acted almost universally as a reasonably stable incentive to learning while blame was an equally consistent inhibiting influence on learning'.

Disparaging remarks by the teachers is another form of punishment device which adversely affects the learning process. It serves to drive the child into his shell and dampens his enthusiasm considerably The teacher should take particular care not to ridicule a child on account of his poor performance or any other short-coming he might have been able to discern.

Apart from the reinforcement devices or rewards of different nature there are other strategies which a teacher can employ towards a more successful classroom management. Insignificant irritants he would do well to ignore, for they are most often designed to attract attention. Whenever a teacher seems to be unduly concerned with very minor behavioural lapses on the part of children and pays attention to them, such a behaviour tends to be repeated, but when ignored is more likely to die out E. Stones (1966) observes that 'Even in case of classroom misdemeanours, ignoring the activity, so long as it is not upsetting other children, may be more effective than giving the child attention'. Even as ignoring a minor act of misdemeanour leads to an atmosphere congenial to learning, so also awareness of the needs of children and attending to them promotes a healthy climate.

Some teachers are in the habit of issuing too many directives regulating the behaviour of children. This invariably proves distracting and the children's attention gets diverted too frequently from the main lesson. It would, therefore, be necessary that the teacher does not allow digressions to take place without sufficient justification.

The element of humour not only serves to diffuse the tension which might result as a consequence of a provocative behaviour but leaves the teacher in a more commanding situation. It brightens the whole atmosphere of the classroom permitting the teaching-learning process to proceed smoothly. Otherwise too cheerfulness on the part of a teacher helps relieve the monotony of the classroom. It should be remembered that a lesson which is taught in a dull and mechanical way rarely goes home and is likely to be ineffective.

The factor of teacher-credibility plays a vital role in making the classroom management effective. The various small promises a teacher might make or may have to make in the discharge of his academic or non-academic responsibilities, should be scrupulously carried out. A teacher, for instance, promises to hold a test on a certain day but fails to do so or offers to complete the evaluation of a written assignment by a specified date but for some reasons defers it—all these erode his credibility. This boomerangs with children failing to respond adequately to the demands made on them

Management of the class also becomes effective as soon as the teacher comes to know each child by name and addresses them by name. The child, in case of an act of indiscipline, is easily identified by name and readily responds to the teacher's directives Knowing a child individually is also an evidence of the teacher's interest in him. Laslett and Smith even suggest methods to remember the names of children and to know them individually: 'A personal comment, using the child's name, can be written each time a book is marked. At least one question can be addressed to each child, every day, if not every lesson. A daily chat, however brief, about something not connected with lessons can be a source of insight as well as a way of establishing rapport'. A genuine interest in each child marked with sympathy would go a long way in ensuring classroom discipline.

Younger teachers in particular should form the habit of critically observing the lesson of a senior successful teacher-colleague and note carefully the devices and the tactics employed by him in managing his class effectively

Of particular interest to him would be the exchanges that take place between the senior teacher and the children, the strategies or tactics with which he handles situations involving confrontations and the way in which he manages to deliver the lesson as such. It is true that each successful teacher has, or develops, his own personality which is largely instrumental in ensuring success for him, nevertheless, there are many devices and skills which the younger teachers can imitate.

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Students' Attitude Towards Correspondence System of Education

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IN India, correspondence system of education is emerging as an alternative to formal system at university level. The system aims at catering to the educational needs of (a) students who discontinue their formal education owing to bad pecuniary conditions and other circumstances ; (b) students in geographically remote areas ; (c) students who discontinue education because of lack of aptitude and motivation but who may later on become motivated, (d) students who cannot find a seat or do not wish to join a regular college or university department, although they have the necessary qualifications to pursue higher education, and (e) individuals who look upon education as a lifetime activity and may either like to refresh their knowledge in an existing discipline or to acquire knowledge in a new area (UGC 1967). Within two decades (1962-82) of the introduction of this system, around 35 universities and other institutions of higher education have started offering several correspondence courses leading to the award of degrees/diplomas/certificates Their enrolment remains around 1.5 lakhs, which is around five per cent of the total enrolment in all universities of the country.

In the context of the development of the correspondence system in the country, need arises to study the credibility of the system with reference to a rational framework. There may be several indices of judgement of the worth of the functioning of the system. The participants', especially the learners', attitude towards the system may be considered as one of the criteria for such evaluation. It is presumed that the correspondence course students hold positive attitudes towards the system at the time of entrance to these courses. They are usually self-motivated and take their own decisions in joining the system. However, after pursuing their studies for a period of time, they may change their attitude towards the system depending on the nature of the functioning of the system. It can be hypothesised that effective functioning of the system could enhance the attitude of students in a positive manner Also, within the institution there may be variations in the pattern of the functioning of the courses, depending on the nature of the various disciplines. There may be changes in the attitudes of students toward the correspondence system when major variations are witnessed in the functioning of the system faculty-wise. In this regard, it becomes worthwhile to study the attitude of students, taking into consideration the faculty-wise break-ups Moreover, a study of the differences in the attitudes of students belonging to different disciplines would reflect on the functioning of the correspondence courses more objectively.

In addition to the nature of the functioning of the correspondence system, different characteristics of the students have an effect on their attitudes towards the system. For instance, it has been specified earlier that there are a number of students who are capable of pursuing higher education, but could not join the formal streams due to constraints such as advanced age, family responsibilities, employment positions and conservative outlook of family members (for women). Hence, students in these categories opt for the correspondence stream as an alternative to the formal system of of higher education. In this context it is hypothesised that students belonging to higher age-groups (beyond the average age cohort of formal streams), employed persons, and women could have a comparatively more favourable attitude towards the correspondence system than possessed by students belonging to lower age-groups, unemployed categories and women. There may be another impinging factor, viz. students' institutional experiences prior to their joining their present courses. These may cause differences in their attitude towards the system. It may be possible that students with previous experience of correspondence studies may have a different attitude towards the correspondence system as compared to those who have had no correspondence study experiences prior to joining the system. As a whole, on the basis of the above, it can be hypothesised that the manner of functioning of the system can be the major determinant of the attitude of students. However, various, other variables such as the nature of courses, students' age, sex, employment, status and history and their previous institutional experiences may cause changes in the attitude of students. The present study intends to focus on the study of the attitude of post-graduate (PG) students of correspondence studies towards the correspondence system.

Objectives of the Study

The study was conducted with the following objectives :

1. To study the attitude of PG students of correspondence courses towards the correspondence system.
2. To study the effect of different variables, viz. nature of the discipline, students' age, sex, employment background and prior institutional experience on the attitudes towards the correspondence system.

Hypotheses

The testing hypotheses of the study are :

1. There do not exist significant differences in the attitude of PG students enrolled in different disciplines.
2. There do not exist significant differences in the attitude of
   - —students belonging to low, middle and upper age groups;
   - —men and women students;
   - —employed and unemployed students;
   - —students having completed a previous course through the correspondence system, students completing previous courses through the formal system and students completing previous courses as external candidates.

Population and Sample of the Study

The students of all PG courses of the Directorate of Correspondence Courses (DCC) of the Himachal Pradesh University constituted the population for the study. The DCC of the H.P. University was chosen for the study because of the following reasons :

1. In India this is one of the correspondence institutions with an existence of over a decade and half.
2. It has been offering PG level courses in different disciplines ever since its inception.
3. Its enrolment includes students from different walks of life and from different regions of the country

Out of five PG Level Personal Contact Programme Centres of the DCC, the Simla Centre was selected randomly for identifying the respondents of the study. It was decided to collect imformation from the clusters of students at all Master level Arts, [Commerce and Education Courses at the DCC's Personal Contact Programmes. The final sample consisted of 75 M.A , 44 M.Com., and 54 M.Ed. students. It had 134 men and 39 women students. On the basis of the availability of complete and accurate information 100 sample students could be classified with regard to other background variables, viz. age, employment and prior institutional experience. The sample size of students belonging to different classified groups is given in the appropriate tables presented in the following section.

Instrumentation

For the purpose of measurement of attitudes of students towards correspondence education, an attitude scale was constructed and validated by the investigator. Thurston's method of 'equal appearing intervals' was adopted for the development of the scale. As per the first requirement for the construction of an attitude scale with equal appearing intervals it was necessary to develop a fairly large number of statements about the psychological object, so that they could represent all shades of feelings towards the object, i.e. correspondence system of education. A list containing 80 statements was prepared at the primary stage. Each was rated by judges on 11 points appearing on the equal appearing scale (starting —5 to +5 with 0 as the indifferent position), i.e. —5, —4, —3, —2, —1, 0, +1, +2, +3, +4 and +5. In total, 14 experienced research fellows of the CASE were approached to rate the primary pooled statements. With reference to the necessary guidelines for judgement, the 'Thurston Scale' was explained to them in detail. On the basis of the responses of the judges, the numerical values against each item were subjected to the analysis of median (scale values) and quartile deviation (Q-value). The criteria used for the selection of the statements for the final form of the scale were (i) low Q-value and, (ii) scale values very close to each of the 11 positions of the scale. The final form of the attitude scale consisted of 16 statements. In the scale, there are two items each which are close to the scale positions 0, +3, +4, —2, —4 and one item each being very close to +1, +2, +5,—1, — 3 and —5 positions.

Analysis and Interpretation

The items responded to by the students in the attitude scale were scored on the basis of the scale values as computed earlier. The mean value for attitude measurement of each individual was calculated. Further, these mean attitude scores at individual level were treated as the attitude score of each individual. Identifying different groups of students on the basis of sex, prior institutional experiences, age, employment and courses undertaken, the means and variances were computed for each group. With regard to testing the hypotheses it was decided to apply the students' 't' test. For application of this statistical technique the assumption of homogeneity of variances was to be tested. Observing that all the groups being classified under different sub-groups with regard to different variables had a homogeneity of variance at .01 level of significance, it was decided to apply the students' 't' test for testing the above-stated hypotheses. The pooled mean attitude scores of all group students was 1.73.

In the eleven-point attitude scale, with 0 as the midpoint, the above mean value can be said to be moderate. Also, the analysis of individual scores reflected that out of the 173 sample students only five (around 3%) had expressed a negative attitude towards the system. The rest of the students had perceived positive aspects of the system. This proves the credibility of the system to the overwhelming majority of its clients.

TABLE 1

Significance of Difference Between the Means of Attitude Scores of Students of Different Disciplines

Sample	*N*	$\bar{X}$	*V*	*SE (difference of* $\bar{X}$*)*		*'t' Values*
Arts	75	1.880	.650	Arts Commerce	161	1.398
Commerce	44	1.655	.760	Commerce Education	.192	0 302
Education	54	1.713	1.073	Arts Education	.184	0.982

TABLE 2

Significance of Difference Between the Means of Attitude Scores of Different Age-group Students

Sample	*N*	$\bar{X}$	*V*	*SE (difference of* $\bar{X}$*)*		*'t' Values*
Below 25 (Low)	46	1.597	.454	Low Middle	148	2.399*
25 to 35 (Middle)	38	1.952	.469	Middle Upper	194	0.049
Above 35 (Upper)	16	1.709	.391	Low Upper	.190	0 589

*Significant at .05 level.

The first hypothesis, as stated above, was regarding absence of difference between attitude scores on the basis of the disciplines undertaken. In this context it can be observed from Table 1 that the obtained 't' value is not significant at .05 level of significance. Hence, the null hypothesis of non-effect of disciplines on the attitude of students is not rejected.

With regard to the relationship between the age and attitude of correspondence course students, it can be seen from Table 2 that a significant difference existed only in the cases of lower (below 25) and middle (25-35) age-groups. However, in rest of the cases, viz. lower and upper (35 and above) age-groups and middle and upper age-groups, no significant differences existed between their respective mean attitude scores. It can be observed from the same table that the mean attitude score of the upper age-group stood in between the mean score of the lower and middle age-groups.

TABLE 3

Significance of Difference Between the Means of Attitude Scores of Men and Women Students

Sample	*N*	$\bar{X}$	*V*	*SE (difference of* $\bar{X}$*)*	*'t' Values*
Men	134	1.653	.956	.145	2.480*
Women	39	2.013	.553		

*Significant at .05 level.

TABLE 4

Significance of Difference Between the Means of Attitude Scores of Employed and Unemployed Students

Sample	*N*	$\bar{X}$	*V*	*SE (difference of* $\bar{X}$*)*	*'t' Values*
Employed	78	1.852	.477	.160	2.463*
Unemployed	22	1 458	409		

*Significant at .05 level

The perusal of Table 3 indicates that there existed significant difference between the mean attitude scores of men and women students at 05 level ; of course, both the groups had expressed positive attitude towards the correspondence system. The higher mean attitude score of women students than that of men students shows women's perception in more positive direction than that of men

From Table 4, it can be observed that there was significant difference between the mean attitude scores of employed and unemployed students at .05 level of significance. As the mean score of employed students was higher than that of unemployed students, it can be commented that employed students expressed more favourable attitude towards the system than unemployed students.

TABLE 5

Significance of Difference Between the Means of Attitude Scores of Students having Different Institutional Backgrounds

Sample	*N*	$\bar{X}$	*V*	*SE (difference of* $\bar{X}$*)*	*'t' Values*
Regular	70	1 753	585	Regular Correspondence	380 .186
Correspondence	22	1.750	.557	Correspondence External	.264 .280
External	8	1.830	.493	Regular External	.260 .311

Table 5 indicates no significant difference between the mean attitude scores of students belonging to different groups classified on the basis of previous institutional backgrounds. In the cases of all the three groups, the mean scores varied within a small range of 1.75 to 1.83. The data do not reflect the effect of previous institutional experiences on the attitude of students towards the correspondence courses.

Discussion

The above facts indicate a few interesting relationships. One, most of the students (97%) who have been continuing with correspondence courses for a considerable period of time (for minimun two semesters) expressed positive attitude towards the system Their mean scores reflected their positive attitude to a certain extent. It can be concluded that perception of the system in a positive manner is one of the indices of the successful functioning of the system. However, low credibility of the system among a small section of students (3%) need not be ignored. The study of the attitude of those students who have dropped out of the system might substantiate the result of the present study.

Two, the lack of difference between the attitudes of students of different courses indicates that differences in the functioning of different disciplines could not cause differences in the attitude of students The homogeneity ment and efficiency rose when workers were (a) organised in teams having a sense of common purpose, (b) made participant in the system, when they had open discussion, group decision and could talk freely about whatever they wished, and (c) when they ceased to be reactive and contrary in respect to a desirable course of conduct for they themselves have had a hand in declaring that course of conduct to be desirable.

Researches in educational organizations have also yielded similar results. More teachers in schools with better (open) school climate have been reported to be satisfied, having high morale, positive attitude and commitment to the organization and the profession. Similarly, students in schools perceived as having better school climate have been found to excel in all school-related studies. Taylor (1968), Bruce (1974), Smith (1974) and Srivastava (1983) studied the relationship of teachers' satisfaction with perceived institutional climate and found the ratings of satisfaction with job/college to be related with the ratings of college environment Likewise, students' satisfaction with college has been found to be related with the ratings of college by Berdie et al. (1970), Pervin (1967) and Srivastava (1980). Studies by Gandhi (1980), Puri (1984), Shukla (1984) all point to similar results concerning college environment and other teacher and student achievement variables. A good school climate therefore is a pre-requisite to the student success and teacher growth, on the one hand, and a measure of the administrative effectiveness of the principal/headmaster, on the other.

The climate of a social organization is a function of the dynamic interplay and interactions among the members of the organization. It is a complex system of situation determinants that exert an influence upon participating individuals. The climate or environment perceived by persons in an organization is a result of manner in which role incumbants at each hierarchical level of the organization interact with each other. Within the school which is a socio-psychological system, the climate is the resulting condition from the social interaction between the teacher and the headmaster and all other human components of the school system. One of the approaches to the domain of the climate has been to encapsulate everything to be said about the climate within the single global concept of morale. Morale, according to Blankenship (1939), refers to a feeling of 'togetherness' and a sense of identification with and interest in the elements of one's job, working conditions, fellow workers, supervisors, employees and the company, and participation is a process of bringing about this togetherness through interaction among groups of people in a democratic setting. The interaction of organizational behaviours of role participants at the various hierarchical levels of the organization generates the feel, personality or climate of the school. Depending on these interactions schools differ in their feel. In some schools, the school community—principal, teachers and students—all find the school to be a happy experience. In some schools the teachers and students somehow tolerate the school. They are not happy with it and suffer from a brooding discontent. In some schools their is neither joy nor despair but a hollow ritual where teachers, students and principals alike are acting out parts with an attitude of indifference and without any sense of involvement with the institution and with the group with which they are working. And, in some schools the school community is so restive that it cannot tolerate the school in the form it exists and want to bring about all kinds of change in its organization and functioning. Why is there such a difference in these schools ? What factors have led to difference in the climate of these schools ?

Argyris (1957), Lewin (1948) and Stogill (1948) among others express the importance of the individual in maintaining the organization, who has needs of his own which must be satisfied regardless of the needs of the formal organization. Schein (1965) also maintains that the success of the administrator of an organization depends very much upon the stimulation which he provides to the members of his organization to give their spontaneous cooperation in achieving the organizational goals.

Schools exit to provide better teaching-learning situation. Better teaching-learning depends on the better climate of the school which in turn depends to a large extent upon the headmaster's behaviour and personality. The position of the headmaster in a school is crucial. He plays a very important role in structuring the total environment conducive to the achievement of school education. His interaction with the teachers is one of the most important factors which affects the quality of school education. His ways of thinking, styles of working, strategies and values influence the teachers' ways of working and attitudes to a great extent which in turn influence the quality of total education. Shukla (1984) found close linkage between educational leadership and teachers' attitude towards their job. Teachers' attitude constitute an important condition of successful teaching. It has been found in a host of researches that one's positive-negative attitude towards the job affect the success on the job quite substantially—positive attitude contributing to success and negative attitude to failure. Positive attitude towards their job on the part of school teachers results into better efforts on teaching leading to better learning by pupils. But attitudes of school teachers may be seen as a function of the way teachers are treated by their supervisory authorities on their job. Although there are several other conditions and factors apart from the treatment meted out to them which affect their attitudes but administrative leadership and its styles do interact with teachers' attitudes. Research has shown that more positive or desirable educational leadership leads to more positive attitude towards the job.

The success and failure of the principal/headmaster in apparently similar circumstances is therefore due to his specific personal qualities and styles of leadership. The behaviour and personality of the headmaster play a significant role in creating the climate of the school, because climate is a function of the leadership behaviour and personality of the leader Gupta (1981) attempted to forecast the school climate on the basis of some predictor variables. He found that (i) leaders who were high on 'consideration" that is, those who had a concern for the comfort, well-being, status and contributions of the staff members contributed to the promotion of open climate which while simultaneously providing satisfaction for the group members' social needs, moves the organization towards its goals, (ii) leaders who had the ability to forecast and predict outcomes accurately added to favourable climate in the school, (iii) leaders who were expedient pushed the school climate towards openness, (iv) tough-minded leaders, that is, leaders who tended to be practical, realistic, independent and responsible contributed to the emergence of open climate of the school, (v) leaders who were 'imaginative' self-motivated and imaginatively creative pushed the school climate toward openness, and (vi) leaders who were group dependent preferred to work and make decisions with other people and tended to go along with the group and as a result contributed to the creation of open climate in the school as against closed climate which offers little satisfaction in respect of either task achievement or social needs. These findings suggest that the prospective educational administrator should be equipped with the personality qualities and leadership styles and behaviour as have been found to help in the creation of open climate that is conducive to the development of positive attitudes towards the job on the part of school teachers and training programmes be designed for the educational administrators in developing congenial climate.

Today when most Indian organizations including educational institutions are confronted with turbulence in their environments and impatience among people within, there is need for the administrators to learn how to manage people, how to deal with changing interface and how to manage change. Training for educational administrators in India has so far gone by default. Educational administration has been studied more for knowledge than skill development. Students studying educational administration are rarely required to engage themselves in any field work connected with administration of education They are never placed in an apprenticeship situation where they can observe and get opportunities to use the practices of successful educational administrators. With identification of personal qualities and styles of functioning and behaviours of leaders which contribute to building good school climate there is need to revise the syllabi in educational administration and incorporate in them some practical course content in the form of internship in educational administration like there is in B.Ed. for practice-in-teaching or in medicine, engineering, IAS and other allied services where trainee officers are made to undergo practical training in the field before they are given the responsibility of a full-fledged professional. Building climate requires both a skill and a temperament and this can be brought about through training in that the administrator learns to provide greater opportunities for communication between and among the staff members so that they can accept one another at face value. A well-trained educational administrator will build up with his teachers relationship that will not be characterized by close, over-the-shoulder supervision and inspection. Instead, he will have a professional relationship of mutual trust and respect with a concern for assisting the teachers in their job. His school will be characterized by high scores on the Espril, Thrust, Consideration and low scores on Disengagement, Hindrance, Aloofness and Production Emphasis subtests of Halpin's questionnaire.

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Improving Engineering Teaching

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ENGINEERING education has been variously described as a profession, an art, a science, and a business, but primarily it is a profession in which men apply the known principles of physical science creatively for the general good of society.

The objectives of engineering education are clear in the statement by Warren K. Lewis, who said, "Our objective is the development of the capacity of student when faced with a new and unfamiliar situation, to handle it with competence involving skill, initiative, and leadership".

Principles of learning stress the importance of effective participation on the part of the learner; his motivation through the formulation of a goal; the clean definition of task assignments; the evaluation of his progress; and his repeated practice in application. It can be appropriately defined : "Learning is a change in performance as a function of practice, the change having a direction that satisfies current motivation of the individual". The basic principles of learning are :

i. Learning is a process by which increasing ability is developed through the effective activity of the learner;
ii. The learner must have a goal;
iii. Objectives for task assignments should be as clear and as immediate as possible;
iv. The learner must know wherein he succeeds or fails;
v. True education requires understanding and mastery of the material to be learned;
vi. Repeated practice in different applications is essential.

Engineering is not easy. For success it demands hard, purposeful work. Resourcefulness, and at times, inspiration are needed, but for continuing professional success there must always be present the ability to work hard, intelligently and purposefully.

Effective learning is the result that the good teacher is after, because, after all, if there is no learning there is no teaching. The improvement of teaching involves many things. It is evident that knowledge of subject matter alone does not provide complete qualifications. The components to the job of good teaching are[1] :

i. How to win and hold the goodwill of students.
ii. How to keep student interest at a high level
iii. How to make teaching practical, functional, or worthwhile.
iv. How to direct the exchange of ideas.
v. How to persuade, convince or influence students
vi. How to speak effectively in the classroom.
vii. How to illustrate or demonstrate ideas.
viii. How to direct student practice or performance.
ix. How to improve the learning techniques of students.
x. How to fit instruction to various abilities and needs
xi. How to teach many students at one time and manage large classes.

Engineering should be taught as a dynamic body of knowledge, which is constantly expanding. Successful teachers give careful consideration to methods of stimulating interest and arousing the students' enthusiasm in the subject. These can best be developed by a method of teaching which gives him ample opportunity to express his ideas. For example, the teacher might start the class by proposing a specific problem, to illustrate a fundamental principle, and then solicit suggestions from the students on methods of attack.

Engineering education provides the opportunity to use several methods of instruction in a given field. The methods commonly employed are : the lecture-recitation procedure, which is used chiefly to aid the student in obtaining an understanding of the basic laws, laboratory work, to strengthen such understanding and also to develop skill in experimental techniques; and design work, which is used both to show how engineering principles are applied in situations simulating practice and also to illustrate how principles from related fields can be combined to yield a solution.

It is often assumed that the major purpose of examinations is to evaluate the performance of students Examinations do, of course, serve the purpose of keeping the student aware of the quality of his work and of acquainting him with his mistakes and weakness. The results of an examination may also acquaint the teacher with his own shortcomings as evidenced by his students' work. If properly planned, examinations serve other important educational purposes. They can stimulate the student to review the course, thereby achieving a better organisation in his mind of the subject matter. They place the student on his own responsibility and require him to think for himself.

In summing up, a technological college can do a good job if it takes up the following tasks :

i. Rotation of teachers among courses that each may acquire a better overall picture of the structure and content of the curriculum.
ii. Informal meetings of staff members may be instituted for the discussion either of problems related to specific courses or for the consideration of more general education problems.
iii. Younger teacher should meet experienced staff member to audit his work in order that the young teacher may gain from suggestions and constructive criticism.
iv. The use of men from industry, who come to the colleges either for short or for extended periods of time, may bring to the colleges fresh viewpoints.
v. Teaching loads should be kept within prescribed limits in order to permit teachers at all levels to engage in activities contributing to their professional development. General observation supports the conclusion that, in general,

teaching loads in engineering are too heavy either as measured on a scale involving the amount of time available for constructive improvement of teaching or in comparison with other fields of instruction.

vi. Good teaching should be recognised and rewarded.

vii. Special schools or training programmes for the specific purpose of aiding teachers to improve their methods of instruction be established. They must have strong staff in engineering, science and the humanistic-social studies relating to engineering, as well as teachers either from faculties of education or selected from the engineering group because of their known skill in teaching.

viii. In medical profession, medical teachers work both as doctors as well as teachers. Engineering teachers should be treated on a similar pattern to help teachers to increase their technical competence.

ix. Above all, technical institutions are facing an acute shortage of good teachers. Young graduates with talent and aptitude are not attracted towards this profession. They find this job less paying, less glamorous, with limited career development opportunities. There exists a world of difference in service conditions, facilities and salaries between institutions and industries. To attract promising teachers there should be scope of career development and increase in salary in comparison with other professional fields.

When all is said and done, it should not be lost sight of that it is easier to achieve the target so far as knowledge and information are concerned while the acquisition of skills depends to a large extent on the inherent abilities of the student.

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Book Reviews

Language and Literature Teaching : From Practice to Principle

Christopher J. Brumfit, Pergamon Institute of English, Oxford, 1985
pp. xii+161, Price : US $ 8.95

LANGUAGE teachers in training often complain about the 'irrelevance' of theory but at the same time they demand a repertoire of practical techniques. As an experienced teacher and teacher-trainer, Professor Brumfit knows this, just as he is aware of the fact that many teachers often end up not knowing why they do what they do. They need to understand a basic point : theory is rooted in practice, and therefore, there is no separation of the two.

Brumfit's book, intended for classroom teachers and teacher-trainers to guide them in building a teaching/training programme consonant with practical experiences and choice of theory, is a collection of twenty-three papers written for various conferences, workshops and meetings and published in reputed language journals from 1979 to 1983. The collection not only provides a clear exposition of some of the prevalent approaches but also constitutes "an extended commentary on major issues in language and literature teaching, and teacher education for those fields, in the past decade".

The papers in the volume seek to "derive useful general principles, compatible with our fullest understanding of theory, from our current practice". Brumfit believes : "Unless innovation builds on current practice, it is unlikely to succeed, and any reformer needs to understand the strengths, as well as the weaknesses, of the existing situation" (p. xi).

He seems to echo, what he calls elsewhere, "deepend strategy" in which the language learner is thrown into a situation and asked to do something he cannot yet do, and is hence brought to realise what it is that he needs to learn. He is then taught what he now sees to be necessary. Principles, thus, grow out of practice.

Teachers should be able to choose what is best for their own situation, considering the type of students, school, academic and administrative set-up, etc. in a spirit of "optimistic caution". Brumfit rightly suggests : "We should be imaginative and wide-ranging in our search for ideas to improve what we are doing; we should even look hard at the packages which people are anxious to sell us, for there may well be good in them, though not the whole truth that is claimed" (p. xii).

With a concern for the interface between theory and practice, the author organises his papers in five sections: Communicative language teaching, the context of language teaching, criticisms of current practice, towards a methodology for literature teaching, and towards a methodology for teacher training. Though distanced by time and place of presentation, all the papers relate to each other and provide a sense of continuity.

The five papers in the first section deal with the present state of English language teaching referring in particular to communicative movement, needs analysis, notional/functional syllabuses, task-based teaching and ESP, use of new kinds of materials and methodologies that correspond with the dynamic needs of learners. As a practical teacher, Brumfit sees teaching as a part of human relationships, and emphasises the need to teach learners "to use the language for their own purposes" (p. 6), that is, to allow them to experience using their own English language rather than the English that belongs to the teacher.

He favours language teaching for *accuracy* and *fluency* (which he neatly explains to distinguish teaching from learning), adopting appropriate methodological procedure but *without* ignoring teacher's experience and intuition. He draws attention to the implications of the view that language is a fluid, dynamic and negotiable system just as he attempts to integrate this view with the practical possibilities of conventional language teaching and considers some of the readjustments and difficulties that are emerging in practice.

The three papers in the second section seek to contextualise language teaching in a broader view than that of teaching technique. The first paper relates to English as an International language (EIL), concentrating not on its formal features but its "ability to be used for the negotiation of meaning" across cultures (p. 38) and how to make its "teaching easier, quicker and cheaper" (p. 37). It is however, difficult to digest what Brumfit sees as "paradox" for the development of EIL that "the more multicultured English becomes the more it will be perceived as a threat and the more it will, in the end, lead people to wish for some alternatives to English" (p. 40). The second paper examines the bases of applied linguistics and the theoretical view of language that distinguishes applied from pure linguistics. Raising certain methodological issues for applied linguistic discussion, he wishes to emphasise the interaction between language *use* and language *development*, "for the process of using and the process of developing. . will be seen to be intimately related" (p. 46). The third paper, informative as it is, examines approaches to language teaching across the educational spectrum in Britain, including mother tongues, second languages and foreign languages. He refers to the already-in-practice the skills model, the growth model and the heritage model as prefatory to his own model which attempts to "depict the expansion of linguistic capacity which will necessarily be associated with socialization and education" (p. 56).

The papers in the third section are diverse in level and type, but they are all part of a critical commentary on current argument and practice. The first paper is a plea for moving away from syllabus, definition to syllabus designing, which must be "responsive to learning theory", systematic, practical, realistic, conceiving the notional, functional, and situational specifications "as a spiral round a basically grammatical core" (p. 66). The second paper seeks to distinguish a number of different aspects of syllabus organisation besides commenting on Wilkins's notional syllabus. The third paper rounds off Brumfit's statements on the relation between syllabus specifications and teaching with discussion mainly centering upon methodological solutions to the problems of communicative teaching.

The next three papers concern the humanistic movement in language teaching. Brumfit maintains that no method can ever provide a complete solution to teaching problems and as such, there is a need for "an integrated profession, not one which trains for particular methods only (even for the Council of Europe) but for a broad interpretation of all interesting and potentially usable developments (p. 89).

The seventh paper relates to the use of graded material its compilation/simplification procedure, reliability, flexibility and use of lexicon The last paper, entitled 'Seven Last Slogans', offers certain stimulating points for teachers, teacher-trainers, authors, publishers, administrators and others.

The three papers in Section Four seek to answer the question how to develop literary experience by reading/teaching literature. Brumfit emphasises that development of literary competence is not possible without developing reading/comprehension fluency and ability to generalise. Seeing the importance of teaching learners to *read* literature rather than to *study* it, he presents a framework to develop a more matured "habit of wide, serious reading" in learners so that they can discuss, individually and in groups, books "in relation to their experience of other books in similar traditions, as well as in relation to knowledge and experience gained outside literature altogether" (p. 111).

The final four papers in the last section concern teacher training methodologies for language teachers. The first paper, which exemplifies a training scheme integrating practical experience, basic theoretical concept and student activities to make learning inductive rather than deductive, derives from a workshop in Mexico City. The second paper, which derives from the author's practice in the ESOL Department of London University Institute of Education, identifies seven general principles for creating coherence in ELT teacher education. The next paper, which also derives from the London Institute, describes the procedures Brumfit developed for an intensive microteaching programme (for EFL teachers) which emphasises microteaching "as a source of discussion and analysis, with the general aim of sensitizing students to the process of integrating practical decisions with systematic and principled thinking about both specific teaching demands and general educational theory" (p. 146). The last paper, written with Richard Rossner, examines the context of teacher education in terms of a model 'hierarchy of decisions' which "is not sufficiently respected either in the career structure of the profession itself or during teacher training" (p.151). Brumfit through this decision-making pyramid rightly seeks to impose some order on the teacher-training process.

He suggests that the content of a training programme for language teachers should be conceived as being determined by the needs of the students (as perceived by them as a result of their exeperience and practice), appropriately analysed and reflected on. Various activities could be developed into a scheme, which "leads to a process of making explicit the theories which in fact inform practice and permits the critical examination of these theories".

On the whole, Brumfit's collection of articles is effective, and it should interest any serious teacher of language/literature in EFL/ESL situation as he is sensitive to the practical experience of teachers as well as the needs of learners in developing/following a teaching/training methodology. Most of his thoughtful suggestions, if honestly followed even within the conventional frame of education that we have in our colleges and universities, language and literature teachers would not only escape the 'unreasoning enthusiasms' of theorists but also stimulate as practical teachers the course of English studies in the right direction.

R.K. SINGH

Improvement of Instruction in Vocational Commerce Subjects : Methods of Teaching

(Dr) Prabhakar Rajzada, New Delhi, NCERT, 1985

VOCATIONAL commerce education provides students with intensive training in theory and practice of trade and commerce-based occupations. Its main purpose is to ensure a steady flow of skilled workers to clerical and middle level supervisory positions in offices, business and industry. Purposive and meaningful training in this practice-oriented area depends much on the selection and use of proper methods and techniques of teaching.

In recent years vocational commerce education has increasingly become popular among students since job opportunities in this sector have increased considerably with the rapid development of economy. But commerce educators in general and vocational commerce teachers in particular are not adequately familiar with the principles of skill building and different methods of teaching skill subjects. To this end the present booklet on methods of teaching vocational commerce subjects is a welcome entry. This booklet, as indicated in its preface, has been designed to help prospective vocational commerce teachers in developing efficient and purposeful procedures for the development and teaching of commercial skills effectively.

Coverage-wise, the booklet is quite comprehensive. It refers to historical development, objectives of teaching vocational commerce subjects, procedure for designing curriculla, methods and approaches of teaching, evaluation, needed physical facilities, teacher qualities, planning of instruction on annual basis, supervision and guidance with particular reference to vocational commerce education.

Since there is no one best method of teaching a vocational commerce subject, the teacher has to be familiar with all the different methods and techniques to choose the one which suits him and his group or class.

Discussion on various methods devised from time to time for effective teaching of skill subjects in this publication makes useful reading. This is more so because it is an outcome of the process of training of in-service commerce teachers drawn from different states and the resulting feedback obtained from them.

It contains a variety of information about tools and techniques useful to commerce teachers and evaluators. In addition, it gives a complete list of rooms, furniture, equipment and material with their specifications required for introducing vocational commerce stream for a group of 40 students. It also deals with commerce teacher's qualities and discusses self evaluation tools and techniques. It details steps on how to prepare an annual plan for teaching vocational commerce in schools. It also contains a list of jobs available for vocational commerce students, both in self and wage employments.

A useful publication for vocational commerce teachers and institutions. However, it would have served more useful purpose if it had discussed taxonomies of psycho-motor development such as those developed by R.H. Dave (1971), Simpson (1966) or Hannah and Michaelis than merely giving Bloom's taxonomy under the objectives of vocational commerce education.

MANJIT SEN GUPTA

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TO OUR CONTRIBUTORS

JIE invites articles/papers on the impact of educational research on classroom practices, and policy decisions. Specific examples where this impact is apparent may be given.

GENERAL EDITOR

The Challenge of Time

IN an unequal society the weak need special protection. Of course, the strong tend to take advantage of the situation anyway. The normal or average type get the benefits of the residues of the advantaged few. But then what happens to the weaker ones ? Is it just a matter of slogan that the weaker ones may be protected, favoured etc. all along the line so that they are also able to survive with dignity ? The mentally deficient, the handicapped, the retarded, etc. have suddenly caught the attention of the authorities. A special education unit has been opened in the NCERT as well. The University Grants Commission and the Ministry of Human Resource Development have also come forward to help this section of teachers and students. However, we must put two questions in this regard :

1. Do the handicapped and mentally deficient really start looking after themselves after this special education is provided to them.
2. What is their future ?

Surely we cannot answer these questions easily for the simple reason that the advent of technology has queered the pitch. Perhaps we do not seem to realize that even the normal and the gifted shall have to face many problems in the job world. Even the skilled people will continuously have to go in for further and better training every five years or so. The nature of skill one would need to cope with the prospective world cannot be predicted because every two years or so the entire technology changes its nature and format. The simplistic view of education and society Indian educators have taken will have to undergo a radical change. Even the gifted and highly intelligent groups of people would find it difficult to survive in our society. Change which was at one time slow and predictable has lost its ancient character. It is fast and radical. The labour-intensive occupations on the basis of which majority of Indians survived will change and be taken over by fatigue-free machines, i.e. robots. We may not have to read Arthur C Clarke's book *The Year 2019* to know what sort of schools India shall have to have but the pity is that nobody is talking of the challenge of time which machines and their accompanying technologies are posing. Let us hope *A Day at School* in the year 2019 in India does take care of *all* the children and not of handful few who would float around anyway. Let us discuss its implications now or it may be too late in the day

GENERAL EDITOR

Educational Backwardness

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Burt (1937) defined educationally backward children as those who, in the middle of their school career, are unable to do the work of the class next below that which is normal for their age. That is, before he is considered backward educationally a child's attainment must fall below a set average According to Hughes (1952), "when schools were organised in 'standards' a pupil aged 10 would normally be in standard four, if he were fit for standard three, the situation was not very serious for he would, without serious detriment work with pupils about one year younger ; if however he was fit only for standard two, the situation was more difficult". He was definitely backward. According to Schonell (1958), a backward pupil is one who, compared with other pupils of the same chronological age, shows marked educational deficiency.

As defined, this "educational deficiency" may characterise only one school subject or it may be shown in all subjects—that is, educational backwardness may be either specific or general. The psychologist considers backward children as those whose intelligence quotients fall 70 and 80 ; that is, for instance, like a ten-year old child whose mental age falls between 70% and 80% of his chronological age

The above definitions tend to stress mental sub-normality as an index of educational backwardness. Underlying these various definitions is the fact that one who is considered backward must have fallen below a set standard, considered as normal for one's age. Other standards are set by some societies and a person or any section of a community that does not measure up to such set standards may be considered educationally backward In this case, it should be noted, the mental disposition of one considered educationally backward or advanced may not necessarily be taken into consideration. In Nigeria, for example, before the onset of the British rule, one of her heterogeneous cultures was deemed suitable for transmission from "generation to generation" through formal schooling. When later the Western formal education—with its emphasis on the basic three R's—was introduced, it was readily accepted as a standard culture or a standard form of education, especially in the Southern provinces.

The Northern provinces had earlier imbibed the Islamic culture to such an extent that the Western formal education was slow in gaining a foothold especially in the predominantly moslem areas. It is common to hear a person referring to this or that area as being educationally backward, in the sense that, that particular area has got only a very low percentage of citizens groomed in the Western formal educational tradition. A Moslem who has had an Islamic type of education, but lacking a knowledge of English (Reading, Writing and Arithmetic) may still be considered educationally backward in certain circles in Nigeria.

Backwardness in this later sense implies the fact that the fellow so considered has not reached the standard of Western formal education which the society regards as a normal educational level. The term "educational backwardness" is at times so loosely used that caution is necessary in interpreting it within the context used. What may constitute scholastic backwardness in one district may be synonymous with average performance elsewhere.

Causes

Possible causes of educational backwardness are many and in some cases most of the conditions listed hereunder are better treated as conditions associated with rather than causes of backwardness. Contributing factors to educational backwardness include, inter alia, slow maturation, fearfulness and aggression, poor teaching, illness and bodily defects, poor socio-economic background. Educational backwardness may also be facilitated by irregular attendance at school, sometimes due to illness or truancy, frequent changes of school due to change of address. Unsuitable teaching methods including lack of continuity of method from one class to the next, too quick or too slow process of promotion. Certain conditions associated with temperament as a tendency to emotional instability, the emotional attitude of the child to school and school subjects. In this case, a poor adverse attitude may arise from dislike of teacher or teachers, or from a sense of failure (Lovell 1958).

Types

Arising from these causes and other contributing factors mentioned above various types of educationally backward cases may be distinguished Children with sensory defects which are not recognised nor treated including defects of vision and hearing constitute a type of educationally backward individuals. About 30% of children of school age have some visual defects and most of such are easily corrected by glasses, about 12% may have auditory defects (Blair et al, 1960). A failure to recognise such difficulties in the early stages may cause the development of emotional disturbances which further interfere with the learning process In such cases early recognition, corrective measures and special provision are essential.

Speech defectives constitute one of the major groups of backward cases among school children. Since speech is an important aspect of the communication process, there will be some adverse effect on learning produced by defective speech. Most speech disorders arise probably from psychological rather than physiological causes and the school is likely to be the place where the problem comes into sharpest focus and resulting from the attendant emotional involvement, as noted above, such a situation may interfere with learning and the overall social adjustment.

Another group may be called the orthopaedic cases. The set includes children suffering from crippling diseases, accidents and other structural deviations which may interfere with learning in various ways. Much school work, for instance, much hospitalisation or handicap may prevent full participation in school activities.

The scope of this particular problem may be one person in hundred twenty-one years of age is affected by some kind of crippling condition, (about 550,000 in the United States) and about the same number suffer from rheumatic heart The teacher may play an important role in identifying symptoms which point to the need for a medical examination.

These are also the socially and emotionally mal-adjusted cases. Emotional factors may lead to difficulty in learning or accompany learning difficulties which may have other cases. In some classrooms as many as 20 or 30% of the pupils are emotionally disturbed and upset but in most situations the number may not exceed 5 to 10%. Of these children boys are said to constitute about 85% of the cases of aggressive behaviour which result in delinquency and classroom disturbances. In the girls the expression is more often in the form of withdrawal, fantasy and nervous symptoms.

There is also a broad group of cases whose backwardness is to great extent natural and inevitable. Causes of such cases may be traced back to prenatal developmental disorders—malformation in the foetus can be brought about by injury, chemical conditions, interference with oxygen supply and nutrition—birth injuries. The majority of spastic and cerebral palsy defects in children are due to birth injuries—metabolic and other disorders causing mental deficiency like amaurotic idiocy, gargoylism etc; chromozomal imbalance giving rise to mongolism which is a common and well-defined case of mental deficiency. Lovell (1958) refers to this set as the dull children.

Diagnosis and Treatment

In diagnosing cases of backwardness the teacher has an important part to play. He should gather as much data as possible bearing on the child's scholastic personality. He can also find out as much as possible the child's interests, leisure pursuits, out-of-school activities attitude to school and his own disabilities. He may also make estimates of the child's temperamental traits and the degree of his emotional stability. Besides these, at least two estimates of the child's IQ should also be known. The child's attainment ages should be known, by using standardised tests of arithmetic, spelling, reading and other English tests. Diagnostic tests should be used also to discover the main types of errors and difficulties

In addition to these, the following information might be obtained if the child is sent to the Child Guidance Clinic, set up in many countries of the world. A report on the socio-economic conditions of the home and on the general quality of home life obtained as a result of visits to the home by a social worker, a more complete picture of the child's emotional attitudes and temperamental traits obtained through the use of projection tests, and the reactions in play situations obtained through observations; also by careful study and interpretation of the child's drawings and paintings. What must be stressed in this connection is that as much information as possible should be obtained about any particular child regarded backward, before he is recommended for remedial teaching to suit his particular need as far as facilities permit. For what may be set as a normal standard of attainment below which one is considered backward may be so unrealistic and arbitrary that a normal child, as Blair puts it, rebels and fails to learn even the bare essentials which are well within his capacity, and so may be erroneously styled backward.

Different methods are used in catering for the backward cases. The 'Remedial' teaching is one of them. "Remedial Teaching", according to Blair, Jones and Simpson, "is good teaching which takes the learner where he is, and through well motivated activities, leads him to increased competence in his areas of weakness". In remedial teaching, among other things, teaching materials must be very carefully graded, even more so than in the case of ordinary children. There should be short frequent lessons, especially in the basic skills For instance, two periods per day of twenty minutes each are better than one period of 40 minutes. There should be ample use of visual aids, models and concrete material generally The work being done and the teaching methods employed should always appear meaningful and purposeful to the children Thus both material and method should be related to real situations that the pupil can understand and appreciate. Such an approach, it has been stressed, often helps to create a desire to learn and helps to do away with the apathy so often noted in dull and backward children. It is also essential that there should be an individual friendly approach in remedial teaching and the work should be well graded that every pupil can tackle it with a good chance of success. Art, Music, Puppetry and Drama should also be used to facilitate the development of the social qualities of such children, in restoring confidence and stimulating their interest

Evidence also suggests that when dull and backward children meet with continued failure in an ordinary class, loss of self-respect usually results and so the condition becomes self-perpetuating. It is considered necessary in certain cases, to take such children away from the competition of more successful pupils and to put them in a small group where they can get more individual help, have more intimate pupil-teacher relationship, have some opportunities for exercising responsibility and experience success through the use of appropriate teaching methods. It is in this connection that special schools—which may be day or residential and also special classes in ordinary schools—are set up to cater more effectively for the needs of these unfortunate children. However, some people have suggested that all handicapped children should, whenever possible, attend the same schools as normal children and the word "special" should be dropped from the official names of separate schools for the handicapped. I wish to submit here that the word "special" may often have some adverse psychological effect in the mind of an individual undergoing a remedial course in such a set-up. Such a child may grow up with an inherent conviction that he is someone "special" However, knowing the strains and stresses a handicapped child can undergo in normal school set-ups, one may still wish to advocate that some schools be set up specifically to deal more effectively with the educationally backward

In cases where backwardness is not general but applicable in specific subjects, pupils may be put into different groups of similar attainment levels for those specific subjects. This method, for instance, is often used in the case of pupils backward in reading or mathematics. Also wherever necessary, children may be withdrawn from their classes and given coaching by members of the regular staff or by peripatetic teachers. There may also be individual coaching at the Child Guidance Clinic, where, in some cases, a child may benefit from.

Conclusion

Backwardness, it should be noted, should be looked upon as a symptom and in such a case an attempt should be made to diagnose its causes before suitable forms of treatment may be devised. In selecting backward children for remedial courses, the teacher, counsellor, psychologist, social worker or whoever is responsible should exercise extreme caution and try different methods available before making his conclusion. Not only one method should be used as a basis for his selection. Philips (1958) has suggested that it may be better to select children on the basis of a discrepancy reading age and chronological age, at the same time taking into consideration all other relevant evidence about the child's attainments, attitudes, background, and so on.

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Education for Talent Development—The Indian Scene

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IT needs hardly be over-emphasized that special provision for developing talent is the essence of democracy. The Rockefeller Brothers' Report has nicely stated this idea: "Democracy is not to be conceived as an invitation to share a common mediocrity but as a system that allows each to express and live up to the special excellence that is in him". The author believes that for its speedy progress, India needs today, more than ever before, men who are able and efficient, who can bring to bear upon their work the impact of their shining intellect That these men will not emerge out of the blue must be fully recognised.

The Meaning of Talent

Before we discuss the various plans which our country has adopted since independence in order to develop its talents, let us be clear as to the meaning of the term 'talent'. Talent has been defined in various ways Most often the term has been restricted to mean some kind of academic excellence. The term 'giftedness' has sometimes been used to denote some kind of excellence, which intelligence or I.Q. tests are able to identify. But such a definition of talent or giftedness is at best a very narrow one. As Gardner[1] has pointed out: "There are many varieties of excellence.... ....In the intellectual field alone there are many kinds of excellence. There is the mind that finds its most effective expression in teaching and the mind that is not at home in research There is the mind that works best in quantitative terms, and mind that luxuriates in poetic imagery".

"And there is excellence in art, in music, in craftsmanship, in human relations, in technical work, in leadership, in parental responsibilities . . ... "

"There are types of excellence that involve doing something well and types that involve being a certain kind of person".

The present paper therefore uses a broad definition of the term talent, one that was used by the 1958 NSSE Yearbook: "The talented or gifted child is one who shows consistently remarkable performance in any worthwhile line of endeavour. Thus we shall include, not only the intellectually gifted but also those who show promise in music, in graphic arts, creative writing, dramatics, mechanical skills, and social leadership".[2] In terms of the percentage of people to be designated as gifted, the Yearbook considered not the two or five per cent with the highest intelligence quotients but "the 20 per cent with promise of exceptionally good performance in a variety of areas of constructive activity". We can well imagine what an opportunity lies ahead of us as a nation if we only could develop our vast talent resource in a planned manner Undoubtedly we have done something during the past 38 years of our independence to create the necessary conditions for talent development. But we have still to go a long way in correctly identifying and educating our talent—"the 20 per cent with promise of exceptionally good performance in a variety of areas or constructive activity".

Pre-requisites for a Talent Development Programme

Universal Primary Education

The earnestness with which India started her efforts to educate her vast majority of first generation learners has borne fruit. Since Independence, the Government of India has been making strenuous efforts for the early fulfilment of the directive principle under Article 45 of the Constitution seeking to provide free and compulsory education for all children up to the age of 14. There can be no denying the fact that universal primary education is the first pre-requisite for talent development. As talent is available everywhere, amongst the rich and the poor alike, in metropolitan cities as well as in far flung rural and tribal belts, the need to develop it through educational efforts is obvious. It can hardly be disputed that democracy cannot survive in the presence of uniformed and misinformed people and that it is through successive opportunities of education that the best brains could be developed. Abilities and interests, as is well known, do not and cannot develop in a vacuum. As Havighurst[3] has put it, "the production of talent in a society is more a matter of creating superior conditions for the development and discovery of talent than it is of searching for a relatively small number of people with great inborn capacity"

It is gratifying to note that after 38 years of our independence we can boast of a phenomenal increase in our school enrolment. The number of schools and teachers have also grown likewise

Figures show that the total enrolment at the school stage in 1978 stood at 9,51,37,549 of which 3,49,32,052 (36 72%) were girls. Enrolment in rural areas constituted 75.97% of the total enrolment in Classes I-V and 60.55% in Classes VI-VIII For Classes IX and onwards the enrolment in rural areas was 46.32% of the total enrolment The total population of the country on the date of reference was 64 crores.

The number of recognised educational institutions in the country on 30.9.1978 was 6,34,144 as against 5,89,031 (without Sikkim) in 1973, an increase of 7.60% over the period 1973-78. Of the 6,34,144 schools, there were 4,74,636 primary schools, 1,12,404 middle schools, 36,575 secondary and 10,429 higher secondary schools. A vast majority of these schools at the primary and middle stages were located in the rural areas.

As regards teachers, there were 29,40,337 teachers working in educational institutions in 1978 as against 26,25,408 in 1973 indicating an increase of 12%. As for the progress made during the past eight years for which statistics are not currently available it can be safely presumed that the rate of growth in enrolment, number of schools and number of teachers has been still faster. The conclusion that can be drawn from this is that India is moving ahead at a rapid pace in her efforts to increase the pool of her talent.

Non-formal Education

Realising the enormity of the task of sending all children of school-going age compulsorily to the formal school system, and also the existence of formidable socio-economic barriers impeding our progress towards fulfilment of the desired goal of universalizing primary education, the Government of India has now embarked upon an alternative strategy of education, namely, non-formal education in order to universalize education in the country. The programme is meant for school drop-outs, for children from habitations without school, working children and girls who cannot attend whole day schools.

The National Policy on Education—1986 makes a special mention of non-formal education as an improved strategy for reaching every child of the country and bringing him/her in the ambit of education. To achieve this purpose, the policy states that modern technological aids will be used to improve the learning environment of non-formal education centres. Other steps which should make non-formal education as a viable strategy for achieving the goal of universal primary education include :

(i) Selection of talented and dedicated young men and women from the local community to serve as instructors,

(ii) making adequate arrangement for the training of these instructors,

(iii) facilitating the entry of deserving cases to the formal system, and

(iv) ensuring that the quality of non-formal education is comparable with that of formal education

As regards the curriculum for non-formal education, the policy states that effective steps will be taken to provide a framework for the curriculum on the lines of the national core curriculum, which will be based on the needs of the learners and related to the local environment. It further asserts that learning materials of high quality will be developed and provided free of charge to all pupils. Furthermore, non-formal education programmes will provide participatory learning environment, and activities such as games and sports, cultural programmes, excursions, etc.

From what has been said above about the emphasis being given to Non-formal Education as a strategy for reaching a far larger number of childern for the purpose of their education, it is clear that the pace of talent development in the country will be accelerated in the years to come, particularly when the Government has resolved to take over-all responsibility for "the vital sector which has not yet fully established" The policy envisages that all children who attain the age of about 11 years by 1990 will have had five years of schooling by 1995 and all children will be provided free and compulsory education up to 14 years of age. A big step would thus have been taken towards the development of the country's talent.

Open University and Distance Learning

As a step towards providing greater opportunities for education to those who want to pursue higher studies but for various reasons cannot take admission to a University, the National Education Policy—1986 has come out with a resolve that the open university system will be strengthened in order to augment opportunities for higher education and as an instrument for democratising education. It is pointed out that the Indira Gandhi National Open University established in 1985 in fulfilment of those objectives will be strengthened.

Rural University

A new pattern of university has been laid down in the country so as to take up the challenge of microplanning at grassroots level and the transformation of rural areas. The National Education Policy—1986 has stated that the new pattern of the rural university will be consolidated and developed on the lines of Mahatma Gandhi's revolutionary ideas of education.

Education of Girls

Today every civilized nation realises that women constitute the second most important talent resource. Studies have shown that they are in no way less intelligent than their male counterparts. Besides, they possess certain special aptitudes which are worthy of the highest development in a democratic society. Soon after the achievement of Independence, the Government of India realised that much attention had to be paid to the education of women who until that time were the most neglected lot. As a result of this the enrolment of girls almost doubled between 1949-50 and 1960-61. The trend has continued in later years. The National Education Policy—1986 has come out with bold and far-reaching recommendations about the education of women stressing the use of education as an agent of change in the status of women. The policy has given a well-conceived edge in favour of women. It has been mentioned that major emphasis will be laid on women participation in vocational, technical and professional education at different levels.

Education of the Backward Classes

That giftedness is widespread, and is found "in villages and on farms as well as in cities and high rent apartments" is being gradually realised in every democratic society. India with her long history of caste system had almost written off a good proportion of her talent resource at least up to the time of her Independence. The Constitution of Free India, thanks to its framers, gave to its less privileged people a new charter for a new life. The Constitution guaranteed certain privileges to the scheduled castes and scheduled tribes which have enabled them during these few years to raise their eyes and see for themselves the possibilities that lie ahead of them. A new source for talent development has thus been tapped. Besides making certain reservations for them in education and services so that they may not be pushed back by the more advantaged section of our society in an open but unequal competition, the Government of India has made special provisions for scholarships for their speedy development. The educational concessions given to the scheduled castes include (i) free tuition at all stages, (ii) monetary grants for purchase of books, (iii) provision of hostels where board and lodging is given free of charge, and (iv) grant of stipends. In this connection, special mention has to be made of the scheme of central scholarships for scheduled castes, scheduled tribes and other backward classes. These scholarships are given to post-matriculate students. The scheme made an humble beginning in 1949 when it was applicable to scheduled castes only. In 1947-48 only 655 scholarships were awarded at a cost of Rs. 5 4 lakh. In 1948-49 the scheme was extended to the scheduled tribes and in 1949-50 to the other backward classes. It has expanded very significantly since then and in 1960-61 as many as 63,369 scholarships were maintained at a cost of Rs. 296.9 lakh. The scheme has played a very important role in the education of the backward classes. The National Education Policy—1986 makes a special mention of the facilities to be provided to the scheduled castes and scheduled tribes for their educational upliftment, thereby tapping another source of country's talent.

Scholarships for Talented Children

While trying to raise the general intellectual level of the people through mass education thereby increasing the pool of talent, the Government of India has not been unmindful of the fact that for the speedy development of the country in a variety of fields, and to catch up with the increasing tempo of scientific and technological development on the world scene, it is only essential that special care be given to talented children.

Like other advancing nations of the world, India too is beginning to see the truth of the statement made by William James about eight decades ago· "The wealth of a nation consists more than anything else in the number of superior men that it harbors".[4] It is wrong to suggest that special provision for the talented is in any way undemocratic As Gardner puts it: "Carried far enough, it (equalitarianism wrongly conceived) means the chopping off of any heads which come above dead level. It means committee rule, the individual somothered by the group. And it means the end of the striving for excellence which has produced mankind's greatest achievements".[5]

The most practical way that the Government of India could think of for providing for the talented under the existing circumstances was to initiate a programme of scholarships for them so that they could be motivated to continue their studies unhampered by financial difficulties. At present the Government of India, Ministry of Human Resource Development is running a number of scholarship schemes for the benefit of the talented children. These schemes are briefly stated in the following paragraphs :

1. *National Scholarships Scheme* : Under this scheme scholarships are given to meritorious students at the first degree stage on the basis of High School/plus two stage examination results. For post-graduate studies the scholarship is awarded on the basis of the result of first degree examination in non-professional courses and professional courses of B.Ed., LL B. and the post-graduate diploma in Journalism.

2 *National Loan Scholarship Scheme* : Under this scheme financial help by way of a loan is extended to meritorious, but needy students The loan is repayable one year after the loanee has started earning or three years after the termination of the scholarship. Normally no interest is charged, in case repayment is made regularly. Candidates who join teaching profession or as combatant in Defence Service are exempt from repayment @ 1/10th of the original loan for each year of completed service.

3. *National Scholarships at the Secondary Stage for Talented Children from Rural Areas* : Scholarships are awarded at the end of the Middle School stage (Class VII/VIII) and continue up to the secondary stage including the +2 stage. The scholarships are distributed amongst the Community Development Block and the Tribal Development Block.

4. *Cultural Talent Search Scholarships* : Under this scheme talented children having special aptitudes in different fields of Art and Culture are given scholarships to pursue their interests. The Centre for Cultural Resources and Training, New Delhi handles the scheme.

5. *National Talent Search Scheme of the NCERT* : A comprehensive scheme of national talent search covering all the States and Union Territories is in operation at present which is intended to identify and develop academic talent at the post-high school stage. All those students who pass Class X in a particular year become eligible for appearing in the NTS examination. The first screening is done at the state level. Those who are among the top 10% then take the examination at the national level. Since 750 scholarships are available in all, the best 1500 students are selected for the interview. Those who secure the top 750 positions on the basis of their marks obtained in the test and the interview are given a monthly scholarship to pursue their studies up to the Ph.D. level in whatever field of study they would like to continue, provided they maintain a particular level of performance in their studies. The value of scholarships is Rs. 150 per month with an

annual book allowance of Rs 200/- per annum. The amount of scholarship and the book allowance goes on increasing at all subsequent stages until at Ph.D level, the scholarship is of the value of Rs. 600/- per month with a contingency grant of Rs. 3000/- per annum. Ten per cent scholarships are reserved for scheduled castes and scheduled tribes.

Future Needs

The above schemes show that there is now awareness on the part of our Government to do something for the more able youth of our country. But most of the efforts still do not touch the heart of the problem, namely, education of the gifted children. Merely identifying them and providing them with some financial assistance will not be of much help unless educational programmes are also planned which would appropriately meet the needs of the gifted pupils. New curricula and methods have to be devised to educate the gifted children, and schools have to be sensitised to the urgent need of starting a meaningful, systematic and continuous programme for the gifted right from the elementary stage.

Navodaya Vidyalayas

It is heartening to note that the New Education Policy—1986 has come out with a revolutionary scheme of opening residential schools, one in each district of the country, to cater to the needs of the talented students mainly coming from rural areas. The scheme is meant to deal with the problem of providing good quality education to the cream of our rural student population throughout the length and breadth of this vast country Undoubtedly, it is a laudable scheme and if implemented earnestly can lead to a quick mobilisation of the country's vast talent resource. The scheme makes the basic assumption that children with special talent or aptitude should be provided opportunities to proceed at a faster rate than others Such children are, in fact, found in all sections of society, and in all areas including the most backward. The Government feels that, so far, good quality education has been available only to well-to-do sections of our society, the poor having been left out. In order to meet their needs it is now felt that good quality residential schools, to be called Navodaya Vidyalayas, should be set up, on an average one in each district, during the Seventh Five-year Plan period. The broad aims for the establishment of Navodaya Vidyalayas are : to serve the objective of excellence coupled with equity, to promote national integration, provide opportunities to the talented children to develop their full potential, and to facilitate the process of school improvement. Within this broad framework, the specific objectives of this scheme are as follows :

(i) To provide good quality modern education—including a strong component of culture, inculcation of values, awareness of the environment, adventure activities, and physical education—to the talented children predominantly from the rural areas without regard to their family's socio-economic condition;

(ii) To ensure that all students of Navodaya Vidyalayas attain a reasonable level of competence in three languages as envisaged in the Three-language Formula ; and

(iii) To serve, in each district, as focal points for improvement in the quality of school education in general through sharing of experiences and facilities.

Admission to Navodaya Vidyalayas will be at the level of Class VI. At this stage, there will be a migration of 20% students from each Navodaya Vidyalaya to another Navodaya Vidyalaya in a different linguistic region. The migration will be, approximately speaking, between Hindi-speaking and non-Hindi speaking districts. Teachers of the requisite calibre will be appointed to teach in these schools. These schools will be co-educational and will serve primarily children from rural areas. Reservation of seats in favour of children belonging to the scheduled castes and scheduled tribes will be provided in proportion to their population in the concerned district, provided that in no district such reservation will be less than the national average. Education in Navodaya Vidyalayas, including board and lodging as well as expenses on uniform, textbooks, stationery, rail/bus fare from and to the homes, etc. will be free for all students There will be inter-active teaching in preference to lecture teaching. Students will be encouraged to identify and take up project activities in areas that interest them. A teacher would be exclusively provided for each school for such activities. The Navodaya Vidyalaya scheme, as can be very well seen, is a well-conceived step towards nurturing the country's talent

Conclusion

As may be seen, the Indian scene with regard to education for talent development seems encouraging. Efforts towards the qualitative improvement of education through a variety of programmes and activities should lead to the flourishing of our talent in the years to come. What still seems to be lacking in the total scenario is a planned and systematic effort to coordinate the various activities in the direction of talent development for achieving the objective of bringing about the talent resource of the country to full fruition in a relatively short period of time.

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Aids for the Blind

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A VISUALLY handicapped person has three basic limitations : limited mobility ; difficult control of the environment ; and relation with the environment. Such limitations are bound to have psychological effects on an individual, directly or indirectly. In considering the effect of lack or loss of vision with reference to cognitive development, a visually handicapped child shows specific differences than a normal fully sighted child. The child with little or no vision rely heavily on the use of other senses-auditory, olfactory, kinesthetic and tactile If a child loses his sight at an early age, his whole idea of the world must be based on tactile and auditory perceptions and kinesthetic experiences. Auditory skill is vitally important as a means of verbal communication, and as an aid to locomotion for distance and directional clues. However, perception of spatial objects can only be achieved by touch, and tactile informations. A vision substitution system for the blind means that with the help of an instrument or instruments one can gather information from the environment. The information that a sighted person gathers through vision is supplied by another channels to the blind.

There are many auditory and tactual aids/instruments which are vitally useful for the education and life activities of the blind. The purpose of this article is to provide a concise and classified picture of the aids which are available and can be used by a blind person or institutions for the blind.

Classification of Aids

There may be many criteria or systems of classification of aids for the blind. If vision is taken as a criterion, then there will be two groups of aids—aids for the partially sighted and aids for the totally blind person. Another groups of aids may be electronic aids and non-electronic aids ; hand-made aids and commercially available aids. Here the available aids are classified, keeping in view their application for the blind The different groups of the aids for the blind are given below :

1. Mobility Aids
2. Reading Aids

3. Writing Aids
4. Recording Aids
5. Aids for Calculation
6. Scientific Aids
7. Recreational Aids
8. Home Aids
9. Vocational Aids

Mobility Aids

Russell Pathsounder . The pathsounder is a box-like device that hangs in front of the user's chest by a neck starp It provides a beam of ultrasound ahead of the user. If the beam hits an object, some of the ultrasound is reflected back to the device, where it is electrically converted into audible tones The pathsounder also indicates the absence of objects and so can help a visually impaired person to locate opening such as doors, etc. children can use this aid in learning the spatial concepts (left or right or ahead) In using the pathsounder the hands of the user remain free to explore objects.

Laser Cane : With the help of the laser cane the blind traveller finds his/her path free of obstacles , receives advance warning of steps down, curbs, holes in the side walk ; determines distance from obstacles ; and walks without touching objects with the cane. An open door or a gate in a fence can also be located with the cane This is an electronic aid and is useful in mobility training also.

Sonic Guide · The sonie guide supplies to the users three kinds of information about an object—its direction, its distance, and some motion of its surface characteristics. It is not a primary mobility aid, it must be used with the long cane or dog guide. The uniqueness of the Sonic guide is its ability to convey some knowledge of the surface texture of an object by varying the sound quality. Smooth concrete wall sounds different from a tree trunk. In addition to its designed function, adults using the sonic guide with long cane have reported that the information it provides improves self-confidence and helps them feel less tense when travelling.

Binaural Sensory Aid . Binaural sensory aid is headworn and is to use in conjunction with a dog guide or long cane. This device gives protection from below the waist to above the head and the wide cane being shaped provides coverage off to the size.

Touch Traffic Light System : This system helps the blind or poorly sighted in crossing the roads and is the product of two years of research by the Berlin local traffic study group When lights change, different radio waves will be transmitted for red, orange and green. They can be picked up via a mini-receiver built into the blind person's stick The signals are then transformed into tactile inpulses.

Mowat Senser · The Mowat senser is handy for locating landmarks, doorways, and specific objectives. It is designed for use with a long cane or dog guide. The Mowat senser omits a narrow beam of ultrasound covering an elliptical area 15' wide and 30° high. If there is an object within the beam, sense of the ultrasound is reflected back and picked up by the senser, which electronically converts it into inpulses that make the whole device gently vibrate The more rapid the vibration, the nearer the object. If an object falls on the floor, the senser can be placed flat on the floor and systematically rotated until the object is located.

Reading Aids

Optacon (Optical to Tactile Converter) : The Optacon is a reading by which the inkprint can be changed into tactual form. Using the Optacon, a blind person has immediate access to the world of print and becomes able to read books, magaziners and other written materials. For visually impaired mathematicians, the Optacon can be especially useful because it allows them to read complicated formulae that are very combersome in braille. It is also useful for persons who are deaf as well as blind. For congenitally blind children the Optacon allows them to become familiar with the shapes of inkprint letters

Kurzweil Reading Machine : Developed by Raymond Kurzweil of Massachusetts Institute of Technology, the KRM uses a computer programme for optical recognition of printed letters converted into synthetic fullword speech. The reader places the book on the glass surface of the machine, presses the top of the page button, and the automatic page scanner then scans the book, finds the first line and begins to read aloud The voice of the KRM is metallic intone and without very much inflexion. It pauses at the end of sentences but there is no downward inflexion as there is an human speech.

Stereotoner : The stereotoner has an audio output in the form of musical tones. The area covered by an individual letter of the alphabet is divided into several zones from top to bottom. There are ten zones in the stereotoner. If any part of the letter falls into one of the zones, a tone is electronically produced by the device. The user will hear a series of tones giving from high to low as the reader moves the scanner from left to right. To help the user in discriminating the tones, the sound is presented stereophonically by earphones, with higher tones louder in the right ear and softer in the left and vice-versa for the low tones

Speech Compressors : The speech compressors allow a recording to be played at up to 2½ times the normal speech. A 60-minute cassette tape can be played in less than 30 minutes and a reader can listen 375 words per minute—or close to an average person's speed for reading inkprint The time compression system distributed by science for the blind allows speech to be played back at twice the normal speed, or slows down at 80% of the normal speed without pitch distortion.

TVSS (Tactile Visual Substitution System): With the help of the TVSS a blind person may have the sense of spatial perception, localization depth of items and sense of pictures through the skin and other senses External signals transduce to stimulate the skin viz commulative connected to rods and electrons. The TVSS can be adopted for many purposes to improve employment opportunities in the electronic and engineering fields. It can be used with the eyepiece of a sub-microscope. It is one of the major tools for blind engineers The blind person can analyse, macroassemble at par with a sighted person. It is applicable for the deaf also

TV Magnifier : The TV Magnifier magnifies up to approximately 30 times the original and still enables people with a visual acuity of as low as 0.015 (20/1250) to read as long as their field of vision is sufficiently wide. It consists of a CCTV system that is especially set up with the existing optical aids that are (i) greater range of magnification, (ii) large image field, (iii) greater heightness, (iv) possibility of contrast reversal, (v) great freedom of head and eye movement, and (vi) variable reading distance.

Coloreader . This device is designed to assist individuals with residual vision problems. The system works by placing the reading material on a viewing table and sliding it forward and back. The reading material is transferred to a video-monitor in enlarged print.

View Scan : The view scan is designed to produce a bright, magnified image of the reading material, which is relayed from a small hand-held camera. As the camera is moved across the page, two high speed microcomputers process the signal and generate the visual display on a flat illuminated material panel. The image can be magnified up to 64 times of the original size.

Writing Aids

Braille State : The basic appliance needed for the education of the blind is a slate. A wide variety of Braille states are available. It is usually composed of a wooden board, metal guide with notched holes and stylus.

Brailler : The brailler developed by Perkins School for the Blind in the USA is most popular throughout the world. However, Voltas have developed a similar machine. The brailler is based on the principle of the typewriter

Signature Guide The signature guide is a piece of metallic sheet with an elongated hole. Inside the hole a blind puts his/her signatures.

New Adopted Typewriter A new typewriter called Ohtsuki has been developed in Japan. It can be used to type simultaneously brailled and print characters on parallel lines. It is also capable of typing braille only. This special typewriter has been manufactured so that visually handicapped people can work together with people with normal sight on the same projects.

Recording Aids

Tape-recorder · The tape-recorder has been a recreational, educational and vocational aid for the visually handicapped. The talking book which was originally recorded on discs having 34 revolutions per minute marked the beginning of educating blind children with spoken word. Subsequently, however, tapes have taken over One of the problems encountered by blind children has been that reading speed on the tape-recorder is by no means comparable to that achieved by sighted students

Digicassette : Digicassette is made in France and is a portable audiocassette recorder/player. It has a 20-cell line for reading. Its immense storage capacity becomes apparent when it is realised that a C-90 cassette can hold the equivalent of 300 sheets of 11"x11½ braille paper. Books stored on cassette would consequently require only about one seventh the space required for ordinary braille, and the cost of producing and distributing the "braille" would be subsequently reduced.

Braillex For Braillex the whole encyclopedia can be recorded on eight or ten cassettes. All that a blind reader is to do is to write a word about which he requires information in Braille on the machine and within a space of two seconds all that is recorded in the encyclopedia will be read out. This speech is more acceptable since it is low tone monotonous speech of the Kurzweil machine.

Aids for Calculation

Abacus : The abacus can help the blind child in calculations with surprising accuracy and speed. Majority of blind students use this instrument.

Taylor Frame : The Taylor frame consists of a board with a series of octogonal holes in which lead or plastic types are fitted in different positions to represent numerical figures.

Talking Calculaters : The talking calculaters use electronically granted synthetic speech to announce which key the operator has touched. When the computation has been completed, answer is spoken back to the user. The device's 24-word vocabulary consists of numbers zero ("oh") to nine, the six functions it can perform (plus, minus, times, over (divide), root, per cent) and other special computation instructions. The synthetic speech is almost recognizable.

Scientific Aids

Thermometers · The blind cannot use mercury thermometers but with the help of Nuffield bimetallic dial type thermometer (usual the method of dial reading) he/she shall be able to get the knowledge of temperature. More accurately the measurement of temperature can be done with a thermocouble and calibrated spot galvanometer, or with the use of special electronic thermometer which is an electronic box producing a constant volume and frequency audible notes.

Balances: Weighing can be done with the spring balances with braille scales. With the help of the Chaudal balance a blind person can weigh 0.1 gramme.

Watches: For timing brailled stop clocks, interval times, etc. are used. For more accurate work, a specially made electric stop clock with veeder counter is used

Recreational Aids

Some recreational aids are Chess, Drought Boards, Audible Balls, Cricket Balls, etc.

Home Aids

Braille Watch: The braille watch with a few dots placed on the dial makes it possible for a blind person to read time either on a conventional or on a digital watch.

Microwave Cooker: The microwave cooker remains cool from outside even when the contents are boiling.

Bread Cutting Box: A simple bread cutting box helps a blind housewife to cut slices straight and even.

Vacuum Cleaner: It is a boon for a housewife to clean the house well.

Milk Savior· The milk savior available on the market in several western countries gives out a sound when the milk begins to boil. It is then possible for a blind housewife to turn the gas or electric current off

Vocational Aids

Shortwave Diathermy Machine· This machine has tactile dials for blind physiotherapists.

Audible Multimeter: With the help of the audible multimeter, a blind electrician undertakes some work in the field of electricity.

Safety Device: It is a photo sensitive device to be attached with a machine. As the hand of a blind worker approaches the moving parts, a shrill alarm is raised and the machine almost immediately stops working.

Thermoform : This machine is used in duplicating the braille or other embossed material like maps, diagrams, illustrations, maths symbols, etc. The machine produces permanent copy on a plastic paper not affected by moisture or soiling.

An Overview

The main purpose of these aids is to provide adequate information about the environment, so that a blind person can accommodate and adjust with that environment. Majority of the aids described in this article are costly and are not affordable by the Indian blind. Only a few of these aids are manufactured in India. Thus, there is need for some research for the development of cheaper and suitable aids for the Indian blind.

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Technology in Education and Rehabilitation of the Disabled

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THE National Policy of Education-1986 (NPE) has made a unique contribution to the development of educational services for the disabled. It is for the first time that educational services for the disabled have been considered as an integral component of the educational system. Its inclusion under the section on 'Equal Education Opportunity' recognises the need for special focus on its development to universalise the right to education enshrined in the Constitution (MHRD 1986). It assumes priority because it is the least developed sector in education representing the least served segment of population. According to the National Commission on Teachers I, only one per cent of the mentally retarded and five per cent of the deaf and blind are covered in about 800-1000 institutions (MHRD 1986 a). Qualitatively, education of the disabled has been recognised as a human resource development activity and not merely a welfare activity. The policy also reflects a trend towards normalisation of the socio-educational environment

The Programme of Action (POA) formulated for the NPE implementation calls for special attention towards education of the disabled. The translation of the recommendations entails several considerations regarding both technology of and technology in education and rehabilitation of the disabled. Rehabilitation is a process of adjustment of an individual to the disability and reduction of its handicapping effects. Education is linked to the rehabilitation process both ways. On the one hand, it is one of the essential inputs to the rehabilitation process, while, on the other, the rehabilitation process improves educability of the disabled. Both are complementary and reinforce each other. Education and rehabilitation are multidisciplinary in nature. Both require inputs from several disciplines.

Role and Framework

To define the role of technology in general and that of educational technology in particular in the development of education and rehabilitation services for the disabled in the context of the NPE Programme of Action, we will have to consider application of educational technology approach to the development of these services. Simultaneously, we will have to consider the technology that can be used to optimise educability and ensuring optimal attainments. These should be considered in the larger context of normalisation of lives of the disabled The task entails matching of inputs to optimise education and rehabilitation process output. It involves documentation and evaluation of the available technology in our context, further research and development need assessment to generate concerned technology; identification of the agencies and organisations that need to be stimulated to undertake this onerous task: action programme design for developing capabilities in the consumer system to use it for optimal gains, constant monitoring and evaluation of technology for updating, and promotion of innovative ingenuity to generate futuristic technology.

The application of educational technology approach to education and rehabilitation of the disabled involves goal specification; task analysis yielding disability-wise need specification; delineating the range of education and rehabilition provision; matching provision to needs, conceptualisation of the service delivery design using the educational system with support from other systems like health, welfare, labour, within the social supra-system; and development of the homeostatic mechanism for adjustment and renewal of the design. The design obviously defines linkages among the systems and subsystems. It is to be comprehensive enough to cover the life progression of the disabled.

The goal has already been specified in the POA which stipulates that those disabled children whose needs can be met in common schools should be brought within the educational system along with others by 1990 and 1995. For severely disabled children, the target may be synchronised with 'Health for all' by 2000 A D. The qualitative goal refers to rationalised provision in as normalised an environment as possible. It implies that the special provision in the cascade system should be resorted to only when need cannot be met in the lower provision Educational provision for the disabled in common with others assumes significance in this context.

Let us now consider the task profile emerging from the analysis of the needs and provision for the disabled. It covers the life and function progression of the disabled. The profile has been presented in Table 1. A word of caution

TABLE 1

Education and Rehabilitation Progression Process (ERPP for the Disabled)

Progression Process Step	Developmental Stage	Core Service System	Support Service System
I. Prevention	Prenatal Postnatal	HEALTH (Immunisation medication, gynaecological services, mother care, etc.	WELFARE (Supplementary nutrition) family counselling, community education WOMEN WELFARE, etc. (ICDS, education of women, etc.)
II. Detection/Identification	(a) Preschool years school age nonattending children (not earlier identified and adventiously disabled)	HEALTH (Developmental, screening, medical check-up, etc.)	WELFARE (District Rehabilitation Centres) WOMEN WELFARE (ICDS, Anganwadi referrels)

III. Assessment	(b) Preschool stage School age children (not early identified and adventiously disabled)	HEALTH EDUCATION WELFARE (DRCS)	
IV Habilitation/ Rehabilitation (Over-coming handicapping effects of disability)	Preschool stage school age (not early identified and adventiously disabled)	HEALTH (Prosthetics, medication, surgery, therapies, etc.)	WELFARE (DRCS, Social and Psychological support) WOMEN WELFARE (ICDS Education Preschool adjuncts)
V. Education	School Higher teritiary (Vocational Professional)	EDUCATION (Common institutions with or without modified curriculum, methods and special learning materials, special class in common institutions, etc.)	WELFARE (Special institutions, home for the crippled home based programmes) HEALTH (Hospitals, schools, hospital-based programmes LABOUR (ITIs).
VI. Vocational Rehabilitation	Graduates emerging from educational vocational and professional institutions. Adults with late onset of disability.	LABOUR (Vocational Rehabilitation Centres, Special Employment Assistance Sheltered Workshops, ITIs etc.)	WELFARE (Social, psychological and financial support, vocational centres attached to special schools).
VII. Social Integration		WELFARE AND LABOUR Community and parental education employer counselling.	EDUCATION Transmission of Integration philosophy in education programmes

(a) Includes 0-5 years (b) Team does it.

before examining the table. The task analysis in this case may not look as neat and tidy as a fastidious technologist would like it to be. This is because of the peculiarities of the areas we are dealing with The overlap in the efforts of disabilities confounded by unique combinations in which, primary or/and secondary disabilities result in multiple handicap and lack of neat definitions of the conditions of disabilities, makes the task complex. It is further complicated because of the age of onset of disabilities and wide variation in the detection time. Due to inadequate infrastructural facilities, detection of mild disabilities, particularly cognitive deficits, get delayed. Yet another variable contributing to the complexity refers to the existing structures lacking specific definition of functions. These structures cannot be ignored. The Education and Rehabilitation Progression Process (ERPP) for the disabled in our context should be viewed in this light. The table specifies the progression stage, development stage of the disabled, core services system and the support system. Under the service systems, salient programmes have been indicated in parentheses. Voluntary agencies supporting the core or support systems are also covered under the term system.

The table is self-explanatory. The first three stages will become neater as identification of the disability is ensured at early stage. The system and support system will become tidier as the total education of the disabled is brought within the umbrella of the educational system. Habilitation and rehabilitation for overcoming the disability effect will continue to be for two groups, the one whose disability is identified early and the other which acquires disability later on by accident or aging.

Planning Approach

Planning for education of the disabled, particularly in rural areas, requires careful consideration. What can be the service delivery design that can meet the educational needs of the disabled and, at the same time, is visible. Composite Area Approach to planning and managemnt was developed in the Indian context (Jangira, 1985). It was also adopted in UNESCO Seminar-cum-Workshop in Special Education as a viable strategy for countries of the Region (UNESCO, 1985)

Planning of a package of services in a specified sector is termed as composite area planning. The word 'composite' conveys the concept of integrated services. The size of the area is determined by the criteria of economic viability and geographical feasibility. Economic viability is considered in terms of cost effectiveness of the services while geographical feasibility is considered in the context of distribution of the disabled children, location of educational institutions and the ease of mobility (transportation). If the size of the area coincides with the size of the development unit for educational or socio-economic planning, it is also convenient for the development of educational services for the disabled as well. For example, a school complex comprising of a cluster of institutions or an education "block" or "district" can be the unit for planning the services.

Another dimension of the composite area planning refers to the comprehensive nature of the package of services like preventtion of disability, identification and assessment of the disabled, preparation for education, educational provision, and rehabilitation These services are planned within the framework of the structures available within the area with a provision for augmentation wherever needed. The "composite" makes the services local specific. It certainly requires a cooperative enterprise incorporating the efforts of the local functionnaries from different Government Departments, local chapters of the non-governmental agencies and the local community. Mobilization of local resources, augmented by additional inputs, strengthens the composite area planning.

The Composite Area Approach is based on the following considerations :

i Special education is a subsystem of the educational system. It needs to be developed as an organismic component of education with support from the relevant departments and agencies (Health, Social Welfare, etc.).

ii. Educational provision for the disabled can be developed in ordinary schools with adequate specialist support leading to optimal integration.

iii. The range of educational provision can be planned within the existing education system through augmentation of the competencies of the existing staff and effective additional sopport services.

iv. The existing special schools and the proposed provision in ordinary schools are not viewed as competing systems, but as elements in the prioritised educational services to the disabled. It is possible to develop and rationalise the provision through reconstructing the existing structures and innovating new structures where no service structures exist.

v. The existing structures available in the educational system and the support structures (health, nutrition and social welfare) are optimally utilised for developing the educational services to the disabled.

vi. Area planning is more functional in terms of real life problems and effective in terms of mass implementation than centralised planning.

vii. Support staff, particularly the support teachers, are placed as close to the service delivery as criteria of economic viability and geographical feasibility permit.

viii The organismic integration tends to result in improving responsiveness of the educational system to the needs of both ordinary as well as disabled children as the competencies of the regular teacher to deal with learning problems improve progressively.

Let us now consider two infrastructural inputs, namely, training and instructional material as exemplars. Expansion requires personnel to implement, special teachers, psychologists, doctors, therapists, supervisors, etc. Even administrators and teachers in the common school system need to be prepared for the IED. Some require full training programmes while others require orientation to the new roles What type of training is required and how time lag can be reduced to the minimum ? Modular programmes with limited contact supported by distance learning can be the answer. Packages need to be developed for such a training design. The NCERT is already proceeding on these lines. Packages are almost ready and will be made available shortly. Simmering discomfort is noticed in some quarters, but it always happens when new technology or its approach is inducted into the system. With progressive socialization process, it is hoped, it will be possible to overcome such difficulties.

Similarly, curriculum adjustments and adaptation of methods and materials to the needs of the disabled in the common school system as well as in special schools are the immediate requirements Optimal attainments depend on this effort. Systematic work involving analysis of the curriculum from the viewpoint of different disabilities along with exemplar material needs to be undertaken. The exercise being done by the NCERT for visually and hearing impaired children (Mukhopadhyay, 1985, 86; Sharma 1985, 86) needs to be extended to other areas as well. Evaluation and examination need review in this context. The effort should be to ensure that they do not miss what they *can*. They should not miss because we failed in our homework to design strategies for improving their access to the curriculum that other children experience. We use the media and material for improving their access to the curriculum optimally with alternative experiences, wherever necessary, without conveying the feeling of *otherness*.

This type of exercise needs to be carried out for all functional areas of education and rehabilitation of the disabled. The functional areas needing educational technology application refer to identification and assessment, habilitation and rehabilitation intervention specific to disability, planning and management, development of data base, research and development, etc.

Let us turn to the second aspect—technology in education and rehabilitation of the disabled covering both hardware and software. As technology brought about green revolution so can it revolutionise the life of the disabled. But, then, agriculture met our survival need, survival need of the nation facing undue external pressure to change the principled stand on world issues. We took up the challenge and engineered the green revolution. The feet could not be repeated in other sectors as they did not cover survival need. In this case, education and rehabilitation constitute survival needs of the disabled. Can their survival need be considered as the survival need of the society ? If the answer had been in the affirmative, the disabled would have been much different than what they are at present. The reason for this lies in uneducated perceptions of the society. Conscientisation of the society regarding the stakes involved in the continued neglect of this segment of the population should change its perceptions. With educated perceptions, societal inputs for meeting the needs of the disabled with a view to ensuring for them a quality of life comparable to other citizens will result in fuller socio-emotional integration. Technology can play a significant role in this endeavour

Technology is being used in the prevention of disability Immunisation, health care and nutrition are the major inputs. Are we using appropriate technology adequately ? There seems to be a lot of scope for improvement. For example, improved transportation and stocking of the vaccine in near hostile environmental conditions can improve its effectiveness. For detection, screening, diagnosis and assessment of large numbers require the use of technology. It has been observed that even those detected with disabilities do not get adequate equipment, assessment services for want of adequate equipment and tools, or specialists, or both. As a result, both provision and programming suffer. Technology in prosthetics has improved considerably, but its use, particularly at the fitting stage, leaves much to be desired. Low vision aids are still conspicuously missing. Hearing aids, whatever supplied, continue to be underutilised because of their low quality, lack of facilities for maintenance, and lack of education of the user and other related persons like parents and teachers who can improve the aids functional effectiveness Even services for fitting the hearing aids continue to be far from satisfactory.

As we all know, the NPE envisages diversification of learning modes for children. It is applicable to this segment of the learners too. They also have the right to the challenges of the 21st century, just like others. If the videotapes and telecasts are scripted, even hearing impaired children can have enriched learning experiences. Radio lessons or 'listen and touch' packages can be highly rewarding for the blind. Microcomputer with necessary add-ons can provide exciting learning opportunities to the disabled. Tapti (1986) documents a lot of such learning aids. Microelectronics is helpful in improving the rehabilitation process. These children do require a wide variety of learning experiences specifically matched to their needs arising out of the disability. They have been missing the bus for long, they should not miss now on.

The use of technology in education and rehabilitation of the disabled can bring better quality of life within their range than what they have today. This goal, however, can be achieved only when the community of scientists and technologists with organisational back-up recognises the urgency to induct concerned technology for education and rehabilitation of the disabled. It finds a place in the planning of research and development endeavour. Sporadic attempts are visible. For example, the IIT, Delhi, indigenously fabricated thermoform machine. Voltas produce brailler and braille kit. The National Institute for Visually Handicapped produce learning aids for the blind The NCERT and other national institutes for the Handicapped are engaged in developing the software. Alimco and other such organisations have developed prosthetics aids. There may be a few more. But these are isolated efforts without a set goal and coordinated planning. A technology mission for the disabled seems to be the need of the hour to develop a long-term policy, evaluation of the available technology, assessing needs, and developing the concerned technology. The task in our case is a little more complicated due to the multiplicity of languages and limited requirement almost in some areas. But we cannot ignore these needs. Through advocacy, involvement of more and more organisations, men and materials will have to be mobilised. It can be planned for the Region for cooperative development and use of the concerned technology Afro-Asian coopeation can make the proposition viable This is the right time to act.

It will be worthwhile to concentrate on three fronts Firstly, document the technology aids available for different functions relating to education and rehabilitation of the disabled Secondly, document the requirements of technology inputs under each area of disability. And finally, suggest guidelines for planning implementation of the concerned technology to achieve the stipulated goals. The concerned agencies have to address to these needs, if the fruits of technology have to reach this unreached segment of our population to improve the quality of their life

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Scheduled Tribes and Equal Educational Opportunities

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It is a great task for a country like India to secure equality for all in the face of rigid social dogmas, economic disparities and water-tight caste barriers gripping it since times immemorial. It requires a great deal of effort to give a new modern shape to our economy, social reforms, political awareness and the caste system for eradicating inequalities. Ours being a welfare state, a number of statutory provisions were made in our country to put an end to these inequalities But statutory provisions alone can hardly prove effective It requires a Herculian effort in several vital areas to establish equality. Education is an overall means to develop life Therefore, we have to take up measures like providing equal educational opportunities besides making basic primary education compulsory.

Education has paved the way for the development of social, economic and cultural processes of modernisation. The country has adopted the policy of providing free and compulsory education with a view to achieving the goal of extending economic, social and political opportunities. For bringing about social changes we have gone beyond our resources to propagate education.

Various educational institutions have afforded many kinds of equal educational opportunities for promoting education amongst tribals besides opening special kinds of institutes giving a fillup to tribal education. The Central and State Governments have made special allocations for boosting tribal education. Special provisions have been made for opening and operating Ashram-type schools, training schools, free hostels and paying scholarship, etc. to tribals undergoing a training course or receiving education in schools/classes. The job cannot be carried out through non-formal education. The scope of formal education too has been widened for tribal students who are desirous of getting it. Arrangements have been made for opening schools near the places of residence of tribal children. Not only this, Ashram schools and special hostels have also been opened even in the remote hilly countryside containing a thin population of tribal children desiring to receive education.

It has, however, been revealed that this kind of educational system has not proved beneficial to tribal students. It is not helpful to them in so far as the need of social change in them is concerned The educational system in vogue in a free competitive social order benefits only the people belonging to the well-to-do groups of society They haves have been reaping full benefits from the current educational system. The reason is the difference between the facilities available to the haves and the havenots. Scores of facilities available in urban areas are apparently lacking in rural areas. Be it a primary or a middle school or an institution meant for higher education, facilities do not exist if it is a rural area. Even basic necessities like library, laboratory, audio-visual aids or other instruments or apparatus are either not available in these homes of education or they are in short supply to the complete detriment to the innocent receivers of education. When such is the position regarding these basic things, it is useless to suppose that present conditions suffice to bring in an era of equal educational opportunities for the tribal students who are unaware of the round-about ways of other developed groups enjoying the facilities if at all made available.

Many educationists, philosophers, political thinkers and statesmen have kept themselves engaged in perceiving the concept of equality of educational opportunities from different angles in different ways. More provisions for equal opportunities can neither remove inequality in education nor can there come equal success to whosoever endeavours to get it. This, however, does not mean that provision of equal educational opportunities does not form a part of the need ; and equality in justice can continue to be neglected as provision of equal opportunities does not guarantee admission of these tribal children to the schools or institutions and courses, etc. This needs to be compared with equal educational opportunities vis-a-vis equal success. Furthermore, it is not enough merely to afford equal treatment to all, as this does not give them equality for the simple reason that everyone does not have the same economic status. Similarly, one and the same educational system cannot be the standard for equal opportunities. Bringing in social justice demands earnest efforts for effecting equality besides taking the achievement of uniform objectives set for one and all classes of people to be the real standard. Frankly speaking, in another words, it means that different classes of people have to be provided equal opportunities on the basis of their category while taking the objective to be uniform for all in the strict sense. This alone can herald an era of equal opportunities for all.

Development of education in developing countries is taken up by adopting a suitable educational system with the motto of providing the maximum benefit of education to the maximum number of persons. But inquiries into the benefits extended to the students reveal a distressing phenomenon that scheduled tribe people remain totally deprived of the benefit of education. Though 20 per cent tribal people are somehow covered under such educational system, they continue to remain a neglected lot besides being denied equal opportunities nearly in all walks of life. This is why we are lagging behind despite making over-all progress in respect of education all over the country. A number of studies have brought this thing to the fore that even a child possessing high intelligence quotient lags behind in completing educational studies. Class-wise studies made hitherto prove that brilliant but poor students of tribal communities are not sincerely extended suitable equal educational opportunities despite their inclination towards education.

According to a tribal case study, it was revealed that the tribal student had to his credit a brilliant record of study in his school besides taking active and leading part in extra-curricular activities. But, as soon as his schoool education drew to a close, he could not pursue any further studies despite having an eager desire in that regard. In this context, it would have been worthwhile to provide special ways to extend educational facilities to such of the tribal students as are classed as backward from social and cultural viewpoints. It would perhaps be better for them to arrange for educational facilities in a separate manner By forming study calsses based on individual diversities, effort may be made to afford the tribal students proper educational opportunities on equal footings

On the basis of individual diversities, separate classes are practically not possible, because financial and pedagogical problems come in the way For any country in general and for India in particular, it will be impractical to form an educational system according to individual necessity. But, we may divide school-going children into various categories according to their class, language, intelligence quotient and cultural differences. On the basis of these divisions we should give equal opportunities to backward and tribal students and also to non-tribal students It has been revealed from the researches made in the past that there is a positive relation between educational achievement of students and their family background. Therefore it is necessary to pay special attention to remove this limitation so that compensatory and remedial education could be provided to them.

Most of the tribals are backward and unaware of their rights and are leading a life without any enthusiasm. When they do not know about the 'rights of equality' and even the word 'constitution' it is meaningless to think that they can be able to understand their practical aspects.

The Government have taken lots of measures to literate the tribals, but we do not find adequate increase in literary or in the number of newly educated people among tribals. Enrolment of tribal children for admission to schools has been very poor. It is learnt that there is much difference of education between tribals and non-tribals in our society We would be required to put new techniques and academic channels into practice to reduce this difference

Efforts should be made by various voluntary institutions to develop education among tribals. These institutions instead of catering to the educational need of tribals, practically serve their political and religious ends only. This is why enrolment of new tribal aspirants for education shrinks gradually While it is heartening to note that tribal students get themselves enrolled for primary education one gets disheartened to see the enrolment of tribal children touching the lowest ebb in respect of middle and higher secondary levels of education. This enrolment further registers a sharp decline when we cast a glance at their enrolment for college education. Thus, tribal students tend to have a high rate of abandoning their education. The reasons for their leaving school may be many, but for these students it involves deprivation of the opportunity of making proper use of their talent, skill and intelligence.

The need, therefore, for such students is more of corrective education than mere formal education Tribal students with poor background and utter backwardness need special attention on education. They have to be specially imparted compensatory education. Unless our educational system is geared up in this regard, the very purpose of providing equal educational opportunities would get jeopardised.

It would hardly need any justification to make special arrangements for providing compensatory education for achieving the goal of providing equal educational opportunities and expansion of education. Formal education would need to be replaced with the informal one added with job-oriented schemes. These measures would go a long way to provide infrastructure needed to attract the tribals towards education and literacy. The question regarding the shape of such schemes and the compensatory education would, of course, require great deliberations. Hence, compensatory education would mean a system of education comprising various special educational programmes meant to bridge the gap left between the tribal and backward students for reasons such as local surroundings, uncongenial atmosphere for study and learning and social make-up.

Tribals in general form part of such a society in India that does not have a culture considered as advanced in the overall set-up of the country. They so far have not been afforded opportunities of making some headway in their development. Amenities existing in cities for general people are not available to them, making them dependent upon others. Modern life has not yet attracted them. Social benefits that flow out of various schemes fail to reach them. They stand unaffected by educational development and fail to receive social benefits. They are totally ignorant of their basic rights including privileges. Since times immemorial, social benefits have been eluding them for their mere hesitation to go in for a thing they are not accustomed to. Therefore, the first and most imortant goal is to seriously prepare special programmes of education that may provide them desired awareness through compensatory and corrective education.

Researches have proved that in comparison with general students the following bottlenecks are more harmful to the educational development of tribal students :

1. They least bother for social stability.
2. They appalingly lack knowledge about their personal hygiene and generally suffer from malnutrition and allied general physical debility.
3. They tend to give up education even on the slightest pretext.
4. Engrossed with primitive living, they are strong believers in spirits and the related cults.
5. Negative attitude towards education is prevalent among them.
6. They mostly suffer from the utmost inferiority complex.

Hinderance in education due to poverty and prevailing environment is a natural process. Further, lack of awareness and knowledge about health, hygiene, inadequate diet and physical fitness are the main causes of lack of interest and efficiency in education. Lack of guidance and experience also hinders the development of their personality.

Unlike an average student, the tribal student comes from a totally different environment, and therefore there should be provision for special coaching to bring his knowledge at part with that of his non-tribal counterpart so that he can avail himself of the equal opportunity as a general student. The coaching should be done accordingly keeping in view the requirments of the students at different stages of primary, middle, secondary and university education. By doing so he will be able to avail himself of the maximum benefit from the opportunities made available.

Normally, the tribal students have a very low opinion of themselves, so the aim of their life is restricted to achieving the normal things of life. The main reason of this inferiority is the socio-economical status of there families, the environment at school, their academic and linguistic knowledge and nature to mould and identify themselves with their own society and failure at the school.

To overcome these problems, it is necessary to evolve special curricula so that technical difficulties in achieving these ends are set aside and these students develop a sense of satisfaction, with the result that they get maximum advantage of the constitutional guarantees and academic facilities. Besides the following points may be considered in this regard:

1. Numerous channels be provided for the admission of tribal students to various kinds of educational institutions. There should be facility for admission extended to such tribal students as had been unable to start education at the normal school-going age. Then only shall we be able to provide equal opportunities of education to them.

2. Their vocabulary should be developed in such a way that they become skilled in it. Audio-visual aids be used to make clear their concepts regarding construction of language and its implications.
3. Conversational skills should be developed in such a manner that they can frankly express their opinions on any subject. Development of the speech skill will certainly remove any inferiority complex in them.
4. A structural approach in teaching the language be followed and difficulties of grammar be clearly sorted out and explained
5. The literature of tribal culture, their environment and tales of their valour, courage, character and cultural heritage be published and made available to them so that they relish them, feel proud of them and get encouraged by them.
6. Documentary films with tribal themes, their culture, folk songs, folk dances, etc. be made as per need and shown to them. This will help not only their cultural development but also their overall progress.
7. They should be made aware of their civic rights and various facilities extended especially to them, through wide publicity of the same. This will also develop a sense of social equality in them.
8. Tape recorders, etc. be used for teaching them the correct use of languages so that they hear their own speech and correct the language and pronunciation accordingly.
9. They be offered equal opportunities in the field of cultural and sports activities. Tribal students can easily excel other students in the field of sports, folk dances, etc.
10. School timings for tribal children should be such as to make it convenient for them to help their parents/guardians in their work.
11. If possible, they should be provided with lunch in the day time and supper in the night schools.
12. Education be given to the tribal students as per their requirements. For this it is essential that primary education is decentralised and the curriculum is made accordingly.
13. The teachers should have a more sympathetic attitude towards the tribal students.
14. Free books, note-books, experiment facilities and proper hostels and scholarships be arranged for tribal students to attract them towards education.

Learning to Count : A Fundamental Problem of Tribal Children

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As a teacher-cum-researcher teaching tribal children in a rather isolated village middle school, one cannot help but be deeply distressed at finding children who have been at school for three or even four years, and who still cannot count. Every effort that the children make to learn maths, every bit of interest they evince in the processes of elementary computation founders on this rock of ignorance of counting, and lack of counting skills.

The students of this particular school are of the Oroan tribe, and speak their own Oroan language day in day out. The medium of instruction is, of course, Hindi, but the children learn Hindi only when they start at school, and, in the early classess, lack both the knowledge and the confidence to speak it. For such children, learning to count in Hindi is a great problem

However, this problem is exacerbated by the fact that if the children cannot master the Hindi counting system in the kindergarden and Class I years, all hopes of success in maths in later classes have already passed them by. As the children's minds develop in Class II, they usually enjoy very much performing the mathematical operations given in that year's syllabus : addition of two-figure numbers, subtraction of two-figure numbers, long multiplication and long division. The whole business of going step by step through the procedures of addition, subtraction, multiplication and division, and coming up with the correct answer at the end of it, simply fascinates them. But the frustration consists in this : children can master the procedures and enjoy them, but so many of them are baulked by ignorance of the numbers, and of counting skills. Early enthusiasm wanes, then drops away. Soon children are relegated to the mass of those for whom maths is an insoluble mystery. Children become one more in the statistics which indicate so painfully that "tribal children can't do maths".

In search for better and more effective ways of teaching counting, this writer consulted quite a number of maths teaching manuals produced in India in both Hindi and English, and found that this most vital topic was not treated.

So saddened by the plight of many eager but frustrated young learners on the one hand, and not finding any guidance on the problem of teaching children to count in either teaching manuals or textbooks on the other, the present author submits this paper with two objectives. First, to earnestly request the curriculum designers and other experts to give serious thought to this fundamental problem of tribal children learning maths, and, if at all possible, to make available suitable curriculum materials, teaching aids and teaching guides. Secondly, to request any reader who is able, to make available to the author references to any material he may know of in the area of teaching counting.

What is the Counting Skill ?

In this section, reference is made only to the basic and preliminary skills of counting which a child should master in his KG year, or at the outset of his Class I. The 'advanced' skills of counting, counting forwards or backwards, counting in 2's, 3's, 4's, etc., counting from any specified number, etc. are being ignored.

There seem to be four basic skills involved in this basic ability to count

1. The child can count by heart serially from 1-100.
2. The child can write the numbers 1-100.
3. When the child hears any individual number, he can show it on the number chart and write it in his book.
4. When the child is shown any individual number, he can recognise it, and give it its correct name.

Many children in KG and Class I become quite proficient in skills 1 and 2. They can count from 1-100 by heart and they can write the numbers. Not only that, if the teacher tells them to count on from, e.g. 46, they can do so once they recall the rhythm of the word order they have memorised.

The method of this learning is audio-oral. The children hear and speak. Although the teacher may display a number chart in front of the children, visual stimulation is of virtually no importance. The stimulus for the children's learning of the numbers is almost totally from hearing. The connection between seeing the number and speaking it is so weak as to be non-existent.

When a child has acquired these two skills, it is generally considered that he 'can count'

But these skills have no functional value. these skills are of no value in performing mathematical operations. For, although the child can count serially, he does not know the individual numbers. The audio-oral method of teaching has taught him that when he hears पैंतालीस he should say छियालीस. It has not taught him that when he hears पैंतालीस he should say and write 45, much less has it taught him that when he sees 45 he should say पैंतालीस. So he cannot recognize the individual numbers when he sees them, nor can he write an individual number when he hears it.

So we find the anomolous situation where children can add $54 + 35 = 89$ because they know that $4 + 5 = 9$, and $3 + 5 = 8$. They can write the digits of the answer 89 correctly, but they cannot say what their answer is.

Teaching division is even more difficult. In a problem where there is no remainder, such as $36 - 4$, the children can say their 4 times tables until they come to $4 \times 9 = 36$. This is done from memory. But if there is a remainder, as in $27 \div 4$, the children cannot solve that, as they do not know where to stop their search through the 4 times tables. $4 \times 6 = 24$, $4 \times 7 = 28$, is 28 bigger than 27 ? Is 24 smaller than 27 ? Which multiple of 4 should be taken ?

Keeping problems of this kind in mind, (many more could be cited) it would seem that the basic skills of counting must include the abilities to recognize individual numbers when they are written or spoken.

Why is the Counting Skill so Difficult for Tribal Children to Acquire ?

Manuals of maths teaching written in English for English speakers give only passing attention to the question of teaching children to count. It would seem that counting is not such a problem for English-speaking children.

If we consider the names of the numbers in English, we see that the names themselves give the learner a great deal of help in both memorising and understanding.

1. If we take e.g. the number 34, we see that its English name, thirty-four, indicates the integers in the order that they are written.

2. The name indicates the actual value of each integer. The actual value of the 3 in 34 is 30. The name of the number is thirty-four

3. If we take the numbers in e.g. the 30-39 group, we find that the names of each number indicate the progression of the numbers exactly. 30 = thirty ; 31 = thirty-one ; 32 = thirty-two, etc. In the written number 3 is common to each number in the tens ; in each name. thirty is common. The units progress 0, 1, 2, 3, etc., and this is shown in the second half of the name : one, two, three, etc.

4. Only 28 number names have to be learned by heart. Each number 1—19 has its own particular name ; after that only 8 new names for the 10's have to be learned, and the intermediate numbers are named by combining with unit names already learned. And at the end comes the name one hundred.

In saying that the Hindi names of the numbers give no such help to the learner, it is certainly not intended to try and show one system of number names is better than another; it is simply to highlight the added and very serious difficulties that tribal children, who are weak in Hindi to start with, have in learning to count in Hindi.

The Class I child is faced with learning not 28, but 100 new and very difficult words, the meaning of which he does not know, and which have only minimal interconnection.

The teacher of KG. and Class I is faced with the enormous problem of making the children learn these 100 new words by heart. This is a task of enormous magnitude. It is certainly no wonder that the teacher's total effort goes in achieving rote memory and that the recognition of individual numbers is overlooked.

It is in fact a miracle that the teachers accomplish what they do The pity of it is that simply learning the names of the numbers, which should be no more than a preparatory step, is such a vast work that there is no time for the more important steps of number recognition.

Another recurring problem of tribal children is that of inverting the order of the digits in the numbers as they work out a problem. For example, in the problem 59 × 7 the children know that 7 × 9 = 63 (तिरसठ) but in writing the answer, they will regularly invert the digits, writing 6 and carrying 3 When the child's attention is focussed on the process of multiplication, he is easily misled by the syllable order of the Hindi name तिरसठ in which तिर refers to 3, and सठ to 60.

So, learning the numbers in Hindi is a task that has special and very complicated problems attached to it. Not only that, but these problems are accentuated in the case of the tribal child.

It is further submitted that to the extent that our present curriculum for Class I maths. is based on Western models, it may be insufficient for our needs. Learning to count is not a great problem for the English-speaking child, and so is given little prominence in the curriculum. For tribal children it is a massive problem. Is the seriousness and difficulty of this special problem reflected in our teaching manuals and in our textbooks ?

Conclusions

And so, to the cry of the heart, research be undertaken and suitable curriculum materials be made available to assist teachers in tribal areas to impart to their students the knowledge and skills of counting

It would seem that two areas have to be investigated.

The first is the language problem. We must bear in mind that for tribal children starting their schooling, Hindi is a new language, which they have never spoken before, and which they have heard only on rare occasions. Normally when a new language is being taught, care is taken to teach the children simple words the meaning of which they know in their own language, and which point to things within their experience. However, when the tribal child learns to count in Hindi, neither of these conditions is present He is suddenly taught 100 words which are new and difficult in themselves and which refer to concepts which the child does not as yet have, e.g. 78 The language problem, then, consists in this: how can the teacher present these 100 new words in such a way that they will relate to the child's experience ? Or, to put it another way: the names of the numbers will not be merely 100 nonsense syllables

The second area is the pedagogical problem. The heart of this problem is this: how can the teacher teach the children to recognise individual numbers ? The language of the Behaviourists is apt to formulate the problem. The connections of stimulus response that should be developed are: the child sees a number (e.g. 58) and says अठावन; the child hears अठावन and can both point to the number 58 on a number chart, and write 58 in his copy.

What teaching methods, teaching materials, etc can be used to establish the connections between these stimuli and responses ?

It does seem that, unless ways and means can be found to make the teaching of counting more effective for tribal children, many of them will continue to be needlessly deprived of success in mathematics.

Who are the Disadvantaged ?

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THE term 'disadvantaged', though used too frequently, is difficult to define because it gathers very fine shades of ideas from different quarters due to the multiplicity of its usages. The term represents the social, economic, mental, ecological as well as physical problems associated with children. The basic concern of this paper is to clarify the widespread confusion regarding 'who are the disadvantaged'.

Webster's Dictionary defines disadvantaged as "lacking in the basic resources or conditions (as standard housing, medical and educational facilities, civil rights) believed to be necessary for an equal position in society", and disadvantage as "the state or fact of being without advantage : (i) an unfavourable, (ii) an inferior, or (iii) prejudicial cond ition . . an unfavourable or prejudicial quality or circumstances : handicap".

Each of these three meanings can be interpreted differently and our educational practices demonstrate all the three variations. The conditions under which a learner, from the weaker sections of our society, enters the school system are absolutely unfavourable to him as opposed to a learner from the affluent sections. It is on account of these unfavourable conditions prevalent in our educational system that the learners from the weaker sections of our society are inferior to their counterparts from the affluent sections in terms of achievement in school. Generally, lower levels of achievement attained in schools by the learners from weaker sections give rise to a prejudice that they are biologically or genetically inferior beings, living in deprived environmental conditions.

In this way, the child is handicapped in growing and to lead a competent and satisfying life. The state of disadvantagedness is a relative matter and may cover a wide range of situation. Fundamentally, disadvantagedness inheres in the failure to provide nurturant conditions appropriate to the child (Newland, 1980). For example—the mentally retarded son of a minister is disadvantaged ; a high school student attending a school too small to maintain an adequate academic programme is disadvantaged ; an urban family with a Rs. 5,000/- annual income is usually more disadvantaged than a rural family of the same size with the same income ; a professor's daughter who has not learned to read by the end of second class is disadvantaged ; an individual who is turned down for a job because of language differences with the dominant class is disadvantaged ; a deaf child is disadvantaged , a student who cannot afford school activities, or books is disadvantaged Thus, any person who, for one reason or the other, is unable either to realize his potential fully or to enter the mainstream of life in his community, may be described as disadvantaged.

Definitions of the bases for being considered disadvantaged vary from situation to situation, from group to group, from person to person and from place to place, depending on personal values.

The socially disadvantaged, the deprived, etc. are defined by most writers and investigators with a host of language, learning and background variables (William F. White, 1971).

Riessman (1962) in his book *The Culturally Deprived Child* has used the terms "Culturally deprived", 'educationally deprived', 'deprived', 'underprivileged', 'disadvantage', 'lower class', 'lower socio-economic group' interchangeably. According to him, "the term 'culturally deprived' refers to those aspects of middle class culture—such as education, books, formal language—from which these groups have not benefited". It means members of lower socio-economic groups who have limited opportunity to education are 'culturally deprived'.

Robert Havighurst (1964) describes the socially disadvantaged child in the USA as one who has a disadvantage relative. Havighurst inquires . who are socially disadvantaged ? He, then, identifies them as follows –

The socially disadvantaged :

(i) are at the bottom of the American society in terms of income.

(ii) have a rural background.

(iii) suffer from social and economic discrimination at the hands of the majority of the society

(iv) are widely distributed in the United States, while they are most visible in the big cities. These children are present in all the socio-economic ladders except in the very high income communities.

In Sixty-sixth Yearbook of the National Society for the Study of Education, Havighurst and Moorefield (1967) further wrote, "In terms of Social Class, or Socio-economic status, the disadvantaged group comes largely from the lower-lower social class, members of which are only marginal to the labour force, frequently unemployed, frequently dependent on welfare funds, and are in the unskilled worker category".

The Baltimore Area Health and Welfare Council (1962) describes disadvantaged population as the persons who :

- do not understand, or are not in contact with, modern urban living ,
- are participants in subcultures, the values and customs of which are different from urban middle class values and experiences ;
- suffer from the disorganizing impact of mobility, transiency, and minority group status (particularly children and youth) ;
- have educational and cultural handicaps arising from backgrounds of deprivation ;
- are members of families with many problems : divorced, deserted, unemployed, chronically sick, mentally ill, retarded, delinquent ;
- lack motivation or capacity to cope with their problems or to improve their situations ;
- lack opportunities or motivation to become responsible citizens for the maintenance or improvement of their neighbourhood or community.

Deutsch (1967) says, "the child of poverty is frequently referred to as the disadvantaged child". According to him, 'disadvantaged is a relative term—one must be disadvantaged with respect to some condition that could be called advantaged'.

According to William F. White (1971), "There should be nothing mysterious about the word 'disadvantaged', 'culturally disadvantaged', 'culturally deprived', 'socially disadvantaged', 'poor children', 'educationally disadvantaged', 'undereducated', 'slum dwellers', 'prisoners in the ghetto', 'poor migrants', and the 'inner-city' or 'rural', 'isolated' children". These labels have been attached to that population who had not got the opportunity for a modern full life.

Actually, in America the pupils who are referred as 'disadvantaged' comprise Negroes, Mexican-Americans, American-Indians, Puerto Rican and Applachians and in Japan buraku communities. Speaking about the burakumin, Hawkins says, "for over 1,000 years long association with certain ritual impurities, usually associated with occupation, was believed to have changed the very nature of a person so that he became defiled and polluted and that, moreover, his pollution was hereditary and communicable". In India the status of disadvantaged is associated with social and economic status. In our country, poor people, people belonging to lower castes and tribes, women and sometimes even religious and racial minorities are labelled as disadvantaged.

The socially disadvantaged are those people in our society who are unable to attain satisfactory economic, social and cultural status and they are subjected to all sports of harassment, difficulties and limitations in their lives. They are the underprivileged people in the society Because of their inferior social economic and cultural status, they constitute the 'weaker section' of the population. The socially disadvantaged are marked by severe economic and cultural deprivations.

Categories of Disadvantaged Children

Disadvantaged children have been categorized by different writers in the following manner,

1. Orphan children
2 Slum dwellers
3. Children of broken homes
4. Physically handicapped children
5. Children belonging to lower-lower castes
6. Economically poor children
7. Female learners.

Orphan Children

Separation from the parents has an adverse effect on the development of the personality of the child Such children are found to be less social, less secure and more anxious. The children deprived of the parents' affection are also poor in their academic achievements. Khatri (1965) examined the differences in goals, interest, intelligence and scholastic performance of 356 children brought up in various orphanges in Gujarat State and 435 children reared in the family in Ahmedabad. The result revealed that the mean I.Q., aspiration level, professional ideals and scholastic performance of the children brought up in the orphanages were considerably lower than those of the children reared in the family.

Slum Dewellers

The child of the slums is disadvantaged in the sense that his background does not equip him to acquire the skills that would permit his societal participation (Deutsch, 1967). The background of poverty does not seem to stimulate the development of the child and the skills necessary to get success in the school and so the child becomes alienated. Silberman (1965) reported that the child from the slums often lacks much of sensory development.

Children of Broken Homes

(Homes broken by separation, widowhood and divorce).

The child from a broken home may also be considered disadvantaged (Morlan & Ramonda, 1968). Mother and father both play a significant role in the proper development of the child Absence of any one guardian makes the child emotionally disturbed Generally mother and father think that they are giving full facility to their children and inspite of giving all the facilities, the children are not achieving what they should have achieved. Perhaps parents do not think that they are giving the economic security to their children at the cost of emotional security.

Physically Handicapped Children

The term 'physically handicapped' includes those who are blind, partially sighted, deaf, dumb, crippled, defective in speech, epileptic and vitally low, i.e. cardiac, allergic, diabetic and the malnourished. Michal-Smith (1962) observed that the status a physically handicapped individual has in society contributes to the feelings of inadequacy, rejection, frustration, hostility and guilt. Due to these feelings capabilities of the child do not fully develop and the child becomes disadvantaged.

Children Belonging to Lower-lower Castes

The disadvantaged children largely belong to scheduled castes, scheduled tribes and other backward classes. These children come from homes which do not contain many objects to help them learn vocabulary terms and to build concepts, and their parents often provide a very poor reading model for their children. The parents do not show much interest in reading and therefore do not provide much motivation for their children in learning to read or improving their reading skill. The poor performance of scheduled caste and scheduled tribe students is due partly to their poverty and partly to the fact that they belong to sub-cultures that have traditionally been excluded from education.

Most of the scheduled caste learners are first generation learners

Economically Poor Children

Economically poor children are disadvantaged because they are unable to combine the demands of school with domestic or other responsibilities that they are required to carry at home. In addition to the fact that they are unable to cope with the demands of school, children from poor homes are handicapped by other shortcomings that arise out of their poverty—for instance, malnutrition, poor health, inability to afford books, stationary and decent clothes to wear to school and lack of a place to study

Contrary to the general impression that scholarships, free-studentships, and other facilities available to the scheduled castes, scheduled tribes and other poor students enable them to overcome the handicaps of poverty, observations of the investigator reveal that the assistance provided does not bring adequate relief.

Female Learners

The problem of illiteracy in India is largely one of female illiteracy. It has varying dimensions : the rural women are more illiterate than their urban counterparts , among the rural women, those belonging to the scheduled castes and tribes are more illiterate than those of the so-called higher castes. Women living in tribal areas are probably worst affected in this regard.

Women's lack of progress may not alone be the fault of women's effort or of unequal opportunity to learn. It may be the imbalance of the culture itself, its heavier emphasis on 'male' rather than 'female' elements, that puts women at a disadvantage.

It can be concluded that disadvantage is produced by a number of factors which may be temporary or permanent and may grow from family discipline, social background, government law, economic condition, etc.

Thus we can define that the disadvantaged children are those who live in unfavourable conditions in any aspects of life (social, economic, mental, physical as well as ecological) as compared to normal children. These children are unable to meet the demands of education, occupation, mobility and economic advancement. The children of such families or parentage are the disadvantaged.

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Integrated Education for Gifted Children in Schools

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THERE are many facets of 'giftedness'. In general, the Gestalt concept of giftedness includes all what is accepted and recognised to be very much exclusively worthwhile marked in the personality structure of an individual. It can be said that giftedness stands for all that is distinctly acknowledged to be marvellous, excellent or subtle characteristic which might be very rarely found amongst the human beings. This goes to illustrate the popular version of giftedness that may be seen prevailing in the common man's parlance

A precise psychological interpretation of giftedness has come to lay emphasis solely upon one or the other human ability in the best of its form and degree. In this context Kirk (1970, p. 39) writes :

> 'With giftedness showing itself in so many different ways, perhaps we can think of it in more general terms for practical purposes as superb ability to deal with facts, ideas, or relationships whether this ability comes from a high IQ or less defined creativity'.

DeHaan and Havighurst (1961, p 18) are still very oftenly quoted to spell out the meanings of giftedness. They have very rightly witnessed the manifestation of giftedness in one or more than one of the following : intellectual ability, creative thinking, scientific ability, social leadership, mechanical skills and talent in fine arts. What is included and excluded from the purview of giftedness may also be read in the words of these authors (p. 16), too. 'Any ability that is both constructive and complex could be included. This would exclude only some simple mechanical abilities, such as finger dexterity, a useful ability, important to a person in typewriting or wrapping packages but still that does not mark a child gifted unless it is combined with other abilities into something more complex'.

It may be expressed like this : Giftedness, per se, is an enviable quality, an outstanding ability or a meritorious capability, a virtuous trait and or a rare personality talent which is potential enough to enable an individual to make an illustrious and laudable landmark in his span of life.

Each and every personality is characterised by inter-intra individual differences for one and all of its attributes. The nature of individual differences is explained by the interaction of the forces of nature vs. nuture or heredity vs.

environment The attribute of giftedness of an individual is also attributed to the joint work-product of his inherited potential and influence of both formal and informal learning experiences mated out to him. In this context, once again DeHaan and Havighurst (1961, p. 18) write in these words . "The actual kind and level of talent displayed by a child is the result of a combination of what he was born with and what social environment has given him".

In defining giftedness, there is a current tendency to avoid depending too heavily on the IQ. It is alright But it is still very much admitted that superior intelligence is a salient factor in determining success, achievement or contribution to society. Whatever may be the domain of giftedness, it is the intellectual superiority which remains to be the common denominator or essential vehicle for any kind of giftedness worth the name.

Giftedness symbolises a constructive and complex ability or a talent that is fundamentally based upon, nurtured with and which for its quality expression ultimately depends upon superior intelligence.

Gifted Children

It emerges out from the above discussion on giftedness that a child of a superior mental ability who has a constructive and complex ability or a talent is essentially a gifted child. However, various authors and authorities have defined gifted children in thier own ways. For the best of our understanding, we make note of some of these definitions.

While defining gifted children, Sumtion and Luecking (1960, p. 6) talk about nervous system and potentials :

> 'Those who possess a superior central nervous system characterised by the potential to perform tasks requiring a comparatively high degree of intellectual abstraction or creative imagination or both'.

DeHaan and Havighurst (1961, p. 15) give much importance to his social contribution for the recognition of a child to be gifted one :

> 'We shall include any child 'gifted' who is superior in some ability that can make him an outstanding contribution to the welfare of any quality of living in, society'.

Kirk (1970, p 38) quotes Fifty-seventh Yearbook of the National Society for the Study of Education :

> 'A talented or gifted child is one who shows consistently remarkable performance in any worthwhile line of endeavour. Thus, we shall include not only the intellectually gifted but also those who show promise in music, the graphic arts, creative writing, dramatics, mechanical skills and social leadership'.

Such like definitions qualify a child as gifted one when he is found to possess atleast one or the other superior ability and puts it into concrete action to result in an outstanding performance which is socially approved and applauded. In this school of thought, an individual with a silent or sleeping and passive talent and or for his casual performance, may that be an attention catching one, or for his involvement in an antisocial or socially disapproved adventure, does not entitle him anyway to be a really gifted one. In this rationale, it is an idealistic concept of gifted children. However, in this approach special attention required by the gifted child for his unique exceptionality has been overlooked and Marlan (1972, p. 10) has pinpointed it quite clearly in the following words :

> 'Gifted and talented children are those identified by professionally qualified persons who by virtue of outstanding abilities are capable of high performance. These are children who require differentiated educational programmes and/or services beyond those normally provided by the regular school programme in order to realise their contribution to self and society'.

According to Kuffman (1981, p.3), to day, educators are likely to list nine categories of exceptionality where the gifted and talented children are but placed in ninth category.

Australian Schools Commission (1980) quoted by Passow (1984, p. 178) seems to be silent or rather takes the contribution of gifted children to society as implied one in the concept of such like exceptionals :

> 'Gifted children are those possessing an outstanding degree demonstrated competence or potential in intellectual, creative/or and abilities and needing different education or services beyond those provided by the regular school'.

The above-cited definitions are necessarily supplementary to one another. When read together, they help us to arrive at the profile of a gifted child as

> 'A gifted or talented child is primarily a unique exceptional child of a distinguished attribute who, under or with some extra guidance or even independently too, engages himself in an eminent performance of an exhalted social contribution which also eventually achieves him his own much desired and aspired self-actualisation'.

The children who with seemingly good potential for somewhat noteworthy performance in a desirable direction, for one reason or the other, fail to record any significant out-put or use of their capability, can be considered as probable potential gifted children And children making use of their superior ability in anyway undesirable or socially disapproved channels may well be known as gifted delinquents or misguided mischievous gifted children. Exceptional children who while serving the best interests of their own optimum growth and development, make the best possible use of their talent to the benefit of the society as a whole, too are really the actual gifted children of our widely accepted concept.

Characteristics of Gifted Children

Gifted children have been the subjects of study of many research scholars and educationists. Mayer (1982, p. 79) has made a review of several authors and makes a list of the characteristics of gifted children under the captions of background, health and physical characteristics, emotional characteristics, intellectual and educational characteristics, social, moral and ethical and occupational characteristics These points are elaborated in the following pages.

Usually, the gifted come from a better than average socio-economic background. The parents of the children are educated and enlightened who expect something extraordinary from their wards. The family as a whole is a happy one and is capable of providing good guidance and educational experiences for the alround growth and development of gifted children.

On the average, gifted children are slightly taller and stronger. Their general physical development is more rapid. They learn to walk, talk and or cut teeth earlier than the average children. They have comparatively fewer sensory defects. With their befitting fitness, gifted children are usually seen to excel in sports and competitive games.

Gifted children are basically superior in their intellectual ability. They are more than average (within the range of 115 IQ to 180 IQ) IQ children. They are sharp brains, fast and keen learners. With a command over the language and enriched verbal ability, lack of abstract learning and increased capacity for processing information, gifted children make a distinguished career in school learning.

Gifted children are emotionally mature and integrated. They perpetuate a sound mental health and enjoy a smooth adjustment in life. Without hurting the feelings of others, they nurture their own feelings in the most refined form of their expressien. Gifted children are self-composed, self-confident and self-directed individuals.

Gifted children are friendly with their friends. They are very much wanted within their peer groups. In general, gifted children are aware of their social obligations and expectations. By living an individually satisfying and socially useful life, talented children are always keen to 'serve' the society

Gifted children entail fine traits of personality. They are decent in their behaviour and decency in general is their first liking. They very much cherish and love to practise idealism in their daily life. They have a strong desire to uphold the norms and standards of human conduct. The quality of means determines the quality of ends pursued in their style of life.

In society, they are considered not only the children who preserve the culture but who shoulder the responsibility to promote and permeate the inherited culture still further. Gifted children become concerned with the social evils at an early age. They carry a strong desire to fight against social injustice, biases and taboos in the way of personal and social development of one and all.

Gifted children like accepting challenges and enter into zig-zag ways to arrive at new inventions and discoveries. Adventurous as they are, involving themselves into difficult tasks and propositions is deemed to be their pastime They aspire holding responsible jobs and onerous duties calling upon their leadership qualities to manifest themselves in social life.

In brief, as a group, gifted children are fine personalities in physical built-up and character traits. They are loving and affectionate to their peer group, parents and teachers alike. They are self-reliant and are taken to be reliable by others. Gifted children are marked as decently cultured, well-mannered and custodians of high traditions and conventions in their daily behaviour. They are self-guides to themselves whose guidance is also sought after by others.

An individual gifted child with a superior mental ability and talent can be a person of more than one salient personality characteristics as enunciated above. Still as one of the human beings, he may not be considered absolutely above one or the other human weekness or deficiency, too. Sometimes because of social, economic and even due to parental demands and constraints imposed upon him the gifted child may be observed to behave not at all to our liking. Under the circumstances, he may be seen reacting inappropriately and disproportionately to his given life situations But as a whole, a gifted child continues to be an integrated and composed personality. An intelligent brain and a sound mind in a sound body remains to be the popular description of a gifted and talented child.

Identification

In our preceding discussions on the concepts of giftedness and gifted children, we have visualised potential gifted children, misguided or delinquent gifted children and really the actual gifted children. Any worthwhile scheme of identification of gifted children is expected to identify all these three types of gifted children.

Identification of gifted children involves an in-depth study of individual differences prevailing amongst the folk of children in schools. That way, any design for the identification of gifted children is basically required to be comprehensive one. It should be carried out with the established social, educational and psychological tools and techniques. The total scheme of things in the identification of gifted children should include :

(a) Observations
(b) Group intelligence test
(c) Individual intelligence test
(d) Achievement records
(e) Personality tests
(f) Aptitude test

(a) *Observations*: Observation is an initial and important technique of educational research. In schools, we talk about professionally trained teachers We shall take it for granted that teachers have the knowledge of gifted children and their outstanding characteristics. It is also expected that trained teachers should have working knowledge of the methods of educational psychology including observations That leaves much to be desired from the working teachers.

By routine observations, with day-to-day contacts, the teachers are well placed to locate and identify the children who might be witnessed to display the characteristics of gifted children. In this context, teachers' interest in their job in general and in children in particular, is of fundamental importance. All the more, to make their observations really useful, teachers can take or make observation schedules, rating scales and check-lists (on the characteristics of gifted children) for this specific purpose. Teachers teaching a particular class can work as a team for the task ahead. Planned observations over a specified period of time both in formal and informal situations in the school by the teachers can reach a useful conclusion in the identification of gifted children. This may lead teachers to interview the parents and students to varify and substantiate the results of observations.

(*b*) *Group Intelligence Test* · Superior mental ability is considered to be a common denominator of all the abilities for any outstanding performance. So, intelligence test as a tool occupies an important place in the identification of gifted children However, we have to be very careful in the selection, administration and interpretation of intelligence tests

A group intelligence test serves as a screening device in an economical and expeditious way. It is also believed to demand less of experties on the part of its administrator However, it may omit gifted but emotionally disturbed or perturbed children. This omission is well advised to be taken care of in our observations. Children found to display the qualities of gifted children in observations but fail to show superior mental ability on group intelligence test need be considered as potentially gifted children who may be given individual intelligence test subsequently.

(*c*) *Individual Intelligence Test* : Children having been observed as 'gifted' in the preceding steps need be given an intelligence test individually. Children still showing intelligence more than an average may be earmaked as gifted for further verification. These earmarked gifted children by this stage shall be deemed to be all potential gifted children.

In this context, we may name Bhatia's Battery, Wechsleris Intelligence Scale and Cattle's Culture Free Intelligence Test.

Children having given an impression of being gifted ones in observations but do not show superior mental ability both in group as well as individual intelligence tests, may not be further examined for their identification as gifted children.

(*d*) *Achievement Records* : Gifted children showing a consistently remarkable performance in academic field and or in any worthwhile activity are really gifted children. However, children observed and having shown high IQ with no record of meritorious performane shall still remain to be potentially gifted children. The cumulative records of such like children showing their keen participation in socially disapproved activities shall be marked as misguided gifted children.

(*e*) *Personality Tests* : Personality tests on gifted children in the form of interest, attitude and trait inventories go to verify our identification of gifted children as marked in the earlier steps. All the more, observed and children with high IQ, including in undesirable activities, showing no good personality traits on personality tests are decidedly to be taken as misguided gifted children. At the same time, children showing good personality components both on observation and standardised tests but register no remarkable record of achievements to their credit are necessarily to be identified as potential gifted children.

(*f*) *Aptitude Test* : Children Aptitude Test (CAT) and others like this one can be utilised to locate the area of talent of the gifted children.

To sum up gifted children are identified by the team of personnel combining together of parents, teachers and guidance workers. However, services of psychologists can also be availed of as and where available. The tools and techniques in the form of observations, interviews, achievement records, intelligence tests, personality tests and aptitude tests should be made readily available for the identification of gifted children. This is the scientifically pooled up information about each and every child with the cooperative and integrated efforts of all interested in the potential development of one and all children, and makes the identification of gifted children a successful adventure.

Education of Gifted Children

Having identified potential, misguided and actual gifted children, educational strategies can be visualised for them.

Potential Gifted Children

These children have one ability or the other, have shown high IQ and personality traits of gifted ones but their performance records remains blank. They are silent inactive gifted children whose giftedness lies idle. They lack readiness and enthusiasm to show their due mark in action Their stalemate may be due to uncongenial surroundings, emotional disturbances, social taboos and or week motivation to be on the execution track.

Their potentials require to be geared up. They have to be awakened and enlightened. Such like gifted children need a good amount of guidance to begin with. Sometimes a case study of potential gifted children may be helpful to unveil their difficulties. Since they remain underachievers, their self-concept and ego need to be strengthened. Their level of ambition is to be upgraded so as to bring it in line with their potentialities. Indirect counselling may serve a desired purpose. Once such like children come to realise the value of their potential and began to cherish the real fun to act accordingly, much of the stage is set to harness their gifted talent.

Some of the poverty-sticken children may also be found handicapped to conduct themselves in the most desirable and feasible actions. They may be disadvantaged for the infrastructure. Since they have been found to be potentially gifted, necessary facilities need be provided to them to exercise their giftedness.

Misguided Gifted Children

Such like children are the products of broken homes, shattered schools and criminal dens of the society. They are talented children who come to utilise their superior ability in the objectionable ways. Antisocial elements exploit them for antisocial, immoral and punishable acts. In their misguided adventures, they turn out to be delinquents and invite the attention of law enforcing authorities.

Gifted children are misguided if they are not properly guided to begin with. There is an urgent need to consolidate their assets lest they are misguided. It calls upon the schools to activate their guidance services. The teachers are expected to attend to their gifted children who claim to have special talents. The grievances of gifted children against the school, home and society need be heard patiently. They have to be wholeheartedly taken back to the fold of cultured society from the clutches of undesirable people. Once they are convinced that they have a place, a role to play, they will happily return to the right path.

Actual Gifted Children

In literature, three approaches are discussed for the education of such like gifted children. These are the children who actually make the best use of their superior ability.

(i) Acceleration
(ii) Homogeneous ability grouping
(iii) Enrichment

(*i*) *Acceleration* · In this scheme, the rate of learning experiences provided to gifted children is accelerated by one of the following two approaches · early admission and skipping or telescoping the classes.

Children are admitted to schools for their fitness in the class irrespective of their chronological age. However, a relaxation of the maximum of one year age is suggested for gifted children in their admission to the formal set-up of school education.

Skipping and telescoping the classes stand for double promotion practices for gifted children. In skipping, the gifted child jumps over one class without attending it altogether. Whereas in telescoping, the child is given a chance to qualify [for mid-term promotion to the next class

Acceleration as a scheme of education for gifted children has come to receive severe critism from educational researchers and psychologists. It is thought to be entirely depending upon academic achievement without any weight attached to other aspects of personality development. Moreover, in double promotion, the gifted child is expected to socialise himself with older-age children. He is deprived of peer-group company which is very much conducive for the alround development of any child including gifted children. This analysis has led to the discarding of this scheme of education for gifted children.

(*ii*) *Homogeneous Ability Grouping* . This scheme of education for gifted children envisages bringing all gifted children under one and the same umbrella. They go to constitute homogeneous groups. It is presumed that in this type of special schools or classes, gifted children can be educated very effectively. Learning experiences are organised and presented by the teachers according to the learning capabilities of gifted children. Teachers' efficiency is also augmented since they have to attend to the same kind of children.

The question arises as to whether it is economically feasible to open special schools for a few talented children. Shall it be possible to depute all the 'gifted' teachers for a small number of gifted children ? Again, in the egalitarian set-up of the society, it may not be socially or politically desirable to concentrate our resourses only for a few exceptional children. Since these schools shall admit only the really gifted children who mostly come from high socio-economic backgrounds, it may sound that these are only the rich economically gifted children who deserve enriched learning situations. In such like homogeneous groups, there is no place for potential or misguided gifted children. Homogeneous groups create artificial mini societies which lead to unhealthy superiority complex amongst the children. This may develop adjustment difficulties for gifted children when they come out of such settings to live in real life situations. For all these reasons, education in homogeneous grouping of gifted children is almost being shelved all over the world.

(*iii*) *Enrichment* : Enrichment is the scheme very much advocated for the education of gifted children. It is taken to be psychologically sound, socially commendable and financially quite viable. In homogeneous grouping and acceleration, actually it is the enrichment scheme which is attempted to be intoduced in its own style.

Enrichment is to provide learning experiences to gifted children over and above those being organised for average children in the scheme of curricular and co-curricularl framework of the normal school and classroom set-up.

Gifted children may be encouraged by the concerned teachers for supplementary readings. There can be a provision for 'gifted' child corner or desk in school libraries. In the class, the chapters found to involve abstract learning and difficult propositions may be emphasised only for gifted children. Gifted children helping their classmates can well benefit themselves, too. In hobby clubs, dramatics, debates and other co-curricular activities, gifted children are expected to play an active participatory as well as leadership role.

Enrichment may be practised intensively and extensively. In intensive enrichment, a study of a particular activity is encouraged on the part of gifted children. This practice entitles intensive enrichment as vertical enrichment. In extensive enrichment, i.e. horizontal enrichment, gifted children are guided to learn many-sided activities and involve themselves in as many activities in which they find challenges for themselves.

Enrichment scheme takes care of all the developmental needs of gifted children. Within the normal school, in the integrated set-up, any special provision made for gifted children can also benefit the normal children. The teachers enriching their teaching can provide better learning experiences to one and all children

Education of gifted children on the lines of acceleration or double promotion scheme has almost been abandoned. The thought of homogeneous ability grouping in this context has lost its ground in the educational thoughts and practices of the day. For all practical purposes, it is enrichment, i.e. integrated scheme of education, which has come to stay for gifted children just like any other type of exceptional children.

Conclusion

Gifted children are valuable assets of society. They are the nucleus of all creative activity of any society. These acclaimed gems of the human race are the wealth of nations and architects of world-spread civilization. Gifted children in their contribution to mankind cut across all the man-made social, religious, racial, geographical and national boundaries. However, there is no reason for satisfaction over educational facilities for gifted children. Passow (1984, p. 186) very rightly echoes the disturbing quality of education available to gifted children :

> 'The education of the gifted class is half-empty or half-full. Gifted education in countries around the world over is alive. However, it has some way to go before it can be pronounced sound, healthy and stable'.

Serious debates and discussions at various levels have intelligently spelt out the desired programme of education for gifted children. Within the given integrated set-up of schools and classes, it is the enrichment design of education which is currently being recommended for adoption and adaptation. It is taken to be a dynamic approach and a progressive line of action for the education of gifted and talented children.

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Status of Rehabilitation Services for the Visually Disabled : An Objective Assessment

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Rehabilitation of the visually disabled—whether in the rural or in the urban sector—is the debate today. How far rehabilitation programmes are successful for visually disabled persons? This question is constantly lingering in the minds of educators, rehabilitation workers, social workers, employers, etc. Everyone will be having his own viewpoint to give a possible answer to this unanswered question. When the answer is not a complete one, a doubt arises—Is there a system which can give a total and workable strategy? The optimistic answer would be "Yes, if there is a comprehensive plan". In designing such a comprehensive plan, experiences of the past should not be forgotton; the present status of rehabilitation has to be viewed objectively and the anticipated future should not be overlooked.

Rehabilitation is a beautiful terminology—that is making one person to live again. This is the philosophical definition. But a social scientist would ask the sensible questions :

living again—to what extent ?
living again—with which expectations in life ?
living again—in which circumstances ?
living again—with how much economic and physical independence ?

The list is endless. It would be a daring adventure to answer and to design programmes for calming down all these fires of frustration encountered by both visually disabled individuals and professional workers in the service delivery system.

Rehabilitation programme is at cross roads. The scene that itself presents before any impartial observer is a system with convincing philosophies, policies and service delivery schemes on paper. In practical field, one has to undergo lot many hardships for rehabilitating one client successfully. What is wrong with this ?

—Shall we blame the visually disabled individual ?

—Shall we put the blame on the rehabilitation worker ?

—Shall we blame the system itself ?
—Shall we blame the employer ?

To be objective, no one can be blamed exclusively for the little success. It can be said that the system itself is imperfect. With an imperfect system, it would be so ambitious to expect perfect products.

How to make the system perfect ?
What are the attributes for making this system workable ?
What measures can be taken at the National level to streamline the service delivery systems ?

One has to follow a logical approach to bring about solutions to these issues.

Rehabilitation in India

We have not made much progress in rehabilitation. But we have opened more avenues for the rehabilitation of visually handicapped individuals than any other country. India can have the pride that it is the only country where rehabilitation is *to be attained* by the visually disabled individual. It is not just given out of the benovalence and charitable approach. In India, visually disabled persons are working in every field. There are teachers, there are lawyers, there are engineers, there are astrologers, there are telephone operators, there are people who work in textile industries, work in machineries, work in lathes, work in state banks, work in post offices, work in cycle shops, work in poultry, work on the farms as agriculturists and so on and so forth. We have not confined the scope of job opportunities for visually handicapped people. They can enter into any field in which they have confidence and where they are acceptable by the employers. They are not expected to perform stereo-type jobs such as massage and acupuncture as in the case of Japan. On the one hand we have to be proud of our system which provides status and equality to visually handicapped individuals, but on the other hand, we have to accept the limitation of the system for not accommodating more visually disabled individuals in the rehabilitation programme.

Under these circumstances, the problems of the rehabilitation of the visually disabled in India can be objectively viewed and the mentioning of them may be an eye-opening for planning. A dozen such general problems are presented for consideration :

1. *Staggering Population*

The main problem we face today is the staggering number of visually disabled adult population Even though empirical evidence is not available, it can be conservatively estimated that adults constitute a major portion of the visually disabled population in India which has been estimated as 9 million plus. In terms of the number of rehabilitated clients, considerable progress has been made. But in terms of percentage with respect to the total population, it is negligible. The enormous number of visually disabled persons is making all the difference. Let us take an example. Having rehabilitated 500 of the 1000 visually handicapped persons, the percentage reads very high, that is 50%. But rehabilitating 20,000 in the population of 30 lakhs is not looking impressive in percentage, it is 0.006%. In terms of the quantity, one can understand how difficult it would be to rehabilitate 20,000 visually disabled people. When organisations look for statistics in percentage which is sometimes "scartistics", the rating of the second type of rehabilitation will naturally go down. India is battling with the second type of problem—that is, more visually disabled individuals and less vocational opportunities.

2. *Location of Rehabilitation Centres*

The present rehabilitation centres for visually disabled people are found in urban cities which mostly expect a visually disabled individual to come out of his own environment and learn a vocation. It is a paradox that the bulk of visually disabled people live in rural areas of the country. For want of rehabilitation services, they migrate to large cities, spending their time with modernised facilities. When they are sent back home after the training, they are left with high aspirations and shattering confusions which retard their social life. Even though community-oriented rehabilitation is frequently spoken of, it hardly finds any existence. The basic systems approach itself needs a lot of changes. Rehabilitation programmes to reach out will be the only solution.

3 *Irrelevancy Between Training and Job*

The present trades offered at the rehabilitation centres are not client-oriented in most of the cases. When one makes close case studies of the already rehabilitated visually disabled people, it could be seen that the training at the rehabilitation centres has less relevance to their jobs. In majority of the circumstances, we could see that the client is dumped to the vocational training available in the centre and in very few cases, the vocation is tuned to the needs of the visually disabled individuals. As a result of the training at the rehabilitation centres being less relevant to the life of the clients, some visually disabled adults keep on moving from one rehabilitation centre to another, spending some time here and there, and therefore not able to come to a certain decision. The planners should take this aspect into account and design client-oriented training in the field of rehabilitation.

4. *Employment*

More than the training, employment is a big problem. It has been beautifully given in the Government policy papers that 3% of the jobs in the Public as well as the Private sector should be allotted for the disabled people. It is quoted in the reports also. But the reality is mostly discouraging. Most of the enterprises have not been able to fill the vacancies as per this ratio Of course, this is an uphill task for everyone. There are varied reasons for this denial. In some cases, industries do not have the necessary jobs which could be assigned to visually disabled people. On the other hand, there are some industries which can give a particular type of work to the visually disabled person occasionally but not permanently. As on today, only large scale industries are able to give full-time jobs to visually disabled persons.

5. *Stereo-type Jobs*

Another issue in the rehabilitation refers to blindness itself. Due to blindness, the range and variety of experiences are reduced and as a result of this, visually disabled persons are trained for stereo-type jobs. This particular stereo-type training of the person is not increasing the scope of employment for visually disabled persons. Due to this, most of the industries have a valid reason to deny a visually disabled person a job Unlike large scale industries, a normal worker in a small scale industry is accustomed to do a variety of jobs, more than two jobs in most of the cases. This naturally keeps him busy during the working hours of the factory and makes him acceptable from the employer's point of view too. Even though it is possible to train a visually disabled person in more than one job within the factory environment, mobility in between the machineries, adjustment to new machineries, etc. would cause serious problems to him. In large scale industries, there are sufficient stereo-type jobs. Therefore, instead of nagging small scale industries for the employment of visually disabled people, the Government with the cooperation of large scale industries can take stern action that the minimum 3% jobs should be offered to visually disabled people. Unless this type of follow-up action is taken, this problem is going to be the subject of debate forever.

6. *Stamina*

When employment problem is one of the major issues, there are some jobs for which visually disabled people are found misfit. In one place, the job of a visually disabled person is just to lift bags of 50 kg. weight and put them in a moving trolly. When visually disabled people are not selected, the answer given is that they do not have sufficient stamina which is the main criterion for selection. This is the point our schools, whether integrated or residential, should take into account. Blindness, by nature, creates a sedentary condition. It reduces the mobility and the control over the environment. Whatever may be the reason, it should be viewed with seriousness that the development of the stamina, the necessary mobility and other social skills is the main life-force behind the rehabilitation of the visually disabled individual

7. *Illiteracy*

Literacy of the visually disabled persons is another issue. Bulk of the visually disabled people had never been to schools As a principle, industries demand minimum educational qualifications for employment. Hence, illiteracy is a major hurdle in the employment of visually disabled persons in the urban sector. The possible ways are either to promote self-employment for the individual or to find a job in the local village itself. Both the processes will be longitudinal. For this type of population, literacy, non-formal education through community service centres or from the nearby residential or integrated schools would be a good remedy. Like universalisation of elementary education, education of the visually disabled should also be universalised.

8. *Cost-effectiveness*

If cost-effectiveness in rehabilitation programmes is treated as a main discussion issue, the life of visually disabled persons will be under total dejection and disillusionment. It is sensible why the service for the visually disabled is treated as a welfare service—that may be mainly due to 'extras' needed for their basic living itself. The Government should be generous enough to allot more funds for the rehabilitation of, and other services for, the disabled people in the country.

9. *Allocation of Jobs*

While promoting rehabilitation services for visually disabled people, the Government should issue a notification to all Government as well as Private sector enterprises that certain types of work should be reserved only for visually disabled people with proper training. For example, chair-canning is a trade which is efficiently performed by visually disabled people. Can we not make a legislation that this job should be reserved for visually disabled people only ?

10. *Coordination of Services*

Coordination seems to be an unending problem with us. While debating rehabilitation services, it will be appropriate to recognise substantial services of voluntary bodies. Internationally renowned organisations have their bases in India. Good hearted people have shed their energy to mount incredible rehabilitation programmes. As small units, the respective rehabilitation programmes are commendable, but as a nation, they are too little. Voluntary bodies have been working in this field on the individual basis. It is time to coordinate the forces and share the expertise between them. As a totality, rehabilitation services can be brought to lime light. As a common apex body, the Goernment only can make this coordination possible and effective.

11. *Lack of Awareness*

Employers' apprehensions over the recruitment of visually disabled persons are legitimate.

This does not mean that they do not like to have visually disabled employees. They have the conviction that visually disabled people could work in industries like sighted people and be equally productive. It is very necessary to remember that most of visually disabled people have won the confidence of their employers and this performance in turn works as an agency for employing more visually disabled people.

12. Lack of Professional Approach

Professional touch to any work means a lot. Rehabilitation programmes of visually disabled people can be manned by better qualified people in the profession who have experience in the field. In some places, senior workers never work with visually disabled clients directly—a deplorable state of affairs. This is happening in some other countries too. But experience has shown that professionally qualified people have the technique and ability to shape the programmes better. It is often said that visually disabled people need more training for their adjustment and skill development than their mere vocational training in a factory set-up. Unless the professional worker has a wide range of experience, the situations could not be tackled easily. Training centres for training staff for various responsibilities in the field of rehabilitation is of paramount importance.

New Approach to Rehabilitation

The term "rehabilitation" is used for all categories of visually disabled people irrespective of age, onset of blindness, nature of disability, etc. Closely observing, one can see that for some clients it is not rehabilitation, it is habilitation itself. In the second category, the total perspective has to be different—that is 'from the beginning'—which makes a world of difference from the idea 'making one to live again'. In the practical field, the professional worker can see a spectrum of different needs for different visually disabled people.

— One visually disabled client is deprived of his mobility , this is the only need. Take for example a farmer who has become blind adventiously. He is scared of moving in the state of being blind. His rehabilitation here is not a job, it is the mobility skill.

— A house-hold wife becomes blind all of a sudden ; what she needs is mobility to move around for performing all the domestic work such as drawing water from the well, going to the river for washing clothes, etc. Apart from this, this client being blind needs the skill of taking care of the kitchen. These two skills make this particular client rehabilitated.

— One visually disabled girl of 9 years is not in a position to take care of herself and is thus always dependent. As a result, her mother has to spend two hours every day for bathing, dressing and attending to the personal needs of the child. If training is offered to the client in such a way that her needs are taken care of by herself, the client is heading towards total rehabilitation.

— Here is an educated visually disabled adult who is trained in light engineering. What he needs is a job in an industry. In addition to his job placement, he needs mobility training, social adjustment skills to get along with his fellow workers and further skills development for higher aspirations. This is a kind of habilitation.

— A daily wage earner with inconsistent income becomes blind. With his sensory deficit, he finds hard to get daily work for earning his bread. What he needs is mobility ; then a capital amount for his self-employment through activities such as goat raising, chicken raising, mat-weaving, petty-shop, etc. A number of similar things are possible. Here loan is the main source of rehabilitation.

— Thus, rehabilitation is not mere provision of a job for earning, it is something more than that. It is shaping the 'whole' individual in terms of emotional independence, physical independence, social independence, and economic independence. Of course, these skills cannot be given in an hierarchical order. These are arbitrary. Every professional worker has to keep these in mind and plan his work accordingly

Some Glimpses from the Field

Whether classified or not, rehabilitation work is done in different dimensions, viz. sheltered rehabilitation centres, self-employment services and rural services. Countless challenges are encountered in these approaches by professionals as well as visually disabled persons. Before venturing on a comprehensive planning of rehabilitation programmes, needs assessment of the present state of affairs is crucial.

Sheltered Rehabilitation Centres

- In most of the cases, the jobs given to the visually disabled persons are not at par with their educational and professional qualifications.
- Due to this under-estimation, handsome salary is not a reachable thing.
- In most of the cases, without job-promotion, monotonous work becomes a part of their life.
- In some cases, there is very little relevance between training and work. For example, a person who is trained in telephone operation works in the packing section.
- Employers are very apprehensive about their joining the Labour Unions. They are also worried about the safety of the visually disabled persons inside the industrial area.
- In many cases the competency of the visually disabled persons has impressed the employers and this, in turn, has paved way for employment of more visually disabled people.
- Some employers feel that appointing visually disabled persons is a risk. This has to be looked into, initiating awareness programmes for the employers.
- Many visually disabled people are worried about the security of their jobs.
- In most of the industrial settings, sighted people have positive attitudes towards visually handicapped people and extend help whenever needed.
- Visually disabled people are happy to have counsellors, who could guide them on matters of selection of jobs, legal formalities, marriage, etc.

Self-employment

The challenges of self-employment have different dimensions. A brief outline of such challenges given by visually disabled people are as follows :

- Setting up of work-spot is a major issue in the beginning. Getting loans poses much problems. It takes such a long time. At the same time, certain funding agencies such as banks do not have provision for subsidy. For getting a modest subsidy, one has to go through a long government departmental process which slows down the pace of work. There can be a mechanism by which the process is hastened.
- Nature of work is another issue. In most of the cases, visually disabled persons are not able to perform self-employment activity all alone. They need the assistance of their family. Self-employment of the client by involving the family has been found successful. But at the same time it is noted that the family sometimes exploits the blindness of the individual. Once the loan is obtained for the rehabilitation of the visually disabled individual, he is not fully involved

except during the initial days of the project. This further restricts the avenues for visually disabled individuals.

- Purchasing of raw materials and sale of finished products seem to be the major problems of the self-employment process. Unless some consumer agencies come forward to take responsibility for the sale of the finished products, self-employment will not be very secured

Rural Services

Rural services which have to get a sound take-off for reaching out the masses have very typical challenges. Some results are very encouraging whereas some are painstaking. It is a mixture of success and failure. The approach is rich and longitudinal ; the individual care is substantial, but the expectations of the clients are different. Here are some flashes from the villages :

- The people of remote villages are carried away by the misconception that the Government is pouring a lot of money on the welfare of the disabled and at the same time the resources are not reaching them. This is the initial challenge every rural worker should encounter
- The rural field worker, whether he is from a voluntary body or from the Government department, is treated as an agent of the Government and he is made to listen to the individual problems of the client as well as the village.
- The illiterate client as well as the family have very little faith in the rehabilitation of the individual. In most of the cases, either the client is not ready for rehabilitation training or the family poses an objection to such training. Therefore, the field worker with the assistance of the experts has to spend days together to get the acceptance of both the entities for training. A lot of patience is needed as the process is not carried through overnight.
- Rocking poverty among the people has developed a feeling that rehabilitation of the visually disabled means bringing economic independence primarily. Therefore, every field worker is posed with the question both by the family and the client in the initial encounter, "Can you get me a job ?"—a genuine question but difficult to answer. The concept of physical rehabilitation, social rehabilitation, emotional rehabilitation, etc. is a mere dogma for them. The dilemma of the field worker continues—whether to give hope to the client for having him for the training or to avoid any promise. Avoidance of both will be a serious mistake. But giving hope before actual training and assessment will be a costly mistake. It will have strong repercussions in the long run. Hence every field worker has to spend a tough period to make the client accept the learning of other skills before his vocational training. Unless the client himself gets involved with the training, mere training will be of less use.
- In most of the cases, visually disabled persons of rural villages are not suffering from rejection as stated in western literature. Due to the culture and community clusters, visually disabled people of below average families are treated as part and parcel of the village. The aspect of denial exists among the middle class families, due to prestige and social stigma. Community help could be solicited in the rehabilitation of the client.
- As a common feature, rural work is appreciated by rural people. They also

appreciate the support extended by the field workers. In short, village atmosphere is very conducive to launching rural services

- Majority of visually disabled people face the state of neglect due to financial reasons. However, this does not affect their societal integration and due to this, clients from rural villages have orientation about their villages. More than this, they perform most of the skills which are usually taught at a rehabilitation centre. Therefore, training of mobility, daily living skills, etc. with the appropriate devices are picked up rapidly by them.
- Due to their illiteracy and limited skill development, clients from rural villages hardly find employment in the urban sector. In most of the cases, self-employment is a feasible approach whereas employment in small scale industries within the community range is also another possible alternative.
- Once the mission of rural service is understood by the rural people they develop a positive attitude towards organisations concerned with the welfare of the visually disabled. This very feeling or attitude promotes respect for the visually disabled individual in the community.
- Once rehabilitation service for visually disabled people is launched and when the efficacy of the programme is known, people with other disabilities come forward for service. As it is not possible for the field workers to work with such clients, only referral services could be offered
- Whatever might be the philosophy of rural services for the adult blind, for the lay man and also for the clients, economic independence is the ultimate goal of the rehabilitation programme. Hence rural service warrants day-to-day innovations and not set principles.

Our Challenge

By nature, rehabilitation is expected to be a result-oriented programme. The ways of arriving at the results are many ; the performance levels are also many—some may be poor results, some may be better and some other may be the best, it all depends upon the means of arriving it. At this stage of rehabilitation, one asks oneself, "Have I a life?" A clear answer with a clear method is needed for injecting confidence in the visually disabled individual at this juncture. Thousands of schemes may be thought of at the planning level: Crores of rupees may be allocated at the financial level. These would be of less value without a proper system for channelising the schemes and the resources to the masses. Planning is necessary at the higher administrative level, intermediate management level and grassroot workers' level. It is every one's responsibility to make the rehabilitation programmes a success. As the Government is heading towards the twenty-first century and with the formation of innovative ministries like the Human Resource Development Ministry, we can reasonably optimistic about our success in the services for the visually disabled in the country. What we need today is human resources primarily for innovations, implementation and evaluation of the rehabilitation programmes for visually disabled people.

Disadvantaged Pupils : Acquisition of Scientific Concepts

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WE live in a world which revolves around science and technology. The conquest of space, earth and water opens a new vista of knowledge for the people of the world. In developing countries science must form the infrastructure for their economic upliftment and as such the state has to play a pioneering role in the promotion of science education. "The chief dangers", as Sakharov held, "facing mankind are the perpetuation of intellectually simplified narrow-minded myths that make the nations prey to hysteria and dogmatism of cruel and treacherous demagogues". So the creation of scientific attitude and outlook in the minds of students should be the first and foremost duty of the science teacher to make the students face the challenges posed by modern society.

Search for a Unified Curriculum

The students of urban areas are to some extent acquainted with the achievements of science and technology through books and mass media while the students of slums, rural and hilly areas are not usually found to be aware of the blessings of science. They are still living in an atmosphere of social superstitions and are regarded as disadvantaged students. Disadvantaged students may be classified in the following categories :

(i) Students of slum, rural and hilly areas.
(ii) Students belonging to ST, SC and other economically backward communities.
(iii) Students of weak dialetics.

The statistics published by the Government of India[2] point to the failure of universalization of education (age-group 6-14), thus resulting in millions of dropouts even at the primary level, specially the disadvantaged students.

TABLE 1

Enrolment Ratio of Students During 1980-81

Category	Class V			Classes VI-VII		
	Boys	Girls	Total	Boys	Girls	Total
General	99 0	66.2	83 1	52.1	27.2	40.00
S C	105.4	57.8	82 2	41.4	16 2	29.1
S.T	94 2	45.9	70 0	28.2	10 8	19 5

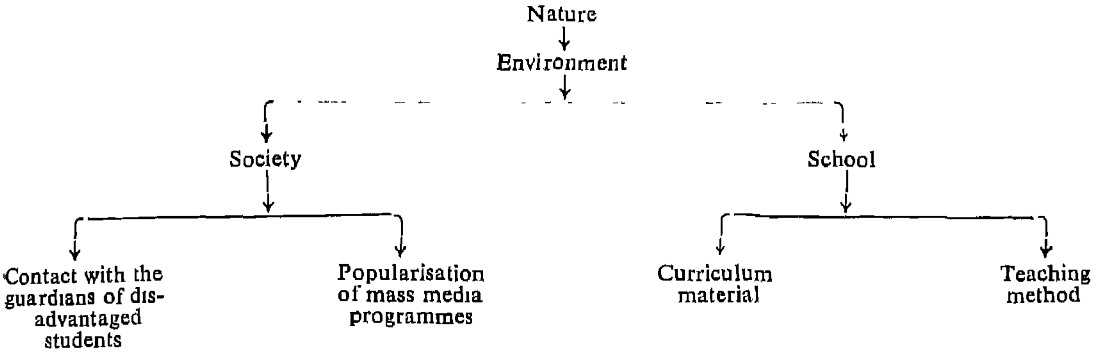
It seems from the above table that the rate of dropout of S T. and S C students of Classes VI-VIII is much greater than that of general students Hence the disadvantaged students are found to be consistently disinterested in education which ultimately results in the failure of our school system. Subject-wise, these students are found to be more disinterested in science education. This should be regarded not as a surprise but as the outcome of our prevailing system of education—which is loaded with bookish curriculum. The interest of the student in science education can be aroused not by prescription but by perception through the practical application of the subject matter. So, selection of proper curriculum in science education depends on the talents, aptitudes and interest of the students so that they may be able to unfold the nature in its actual form. "Curriculum does not mean, as Mudaliar held, only the academic subjects traditionally taught in schools but includes the sum total of experiences a pupil receives through the manifold activities. . .in the school, in the classroom, library, laboratory, workshop, play-grounds and in the numerous informal contacts between teachers and pupils".

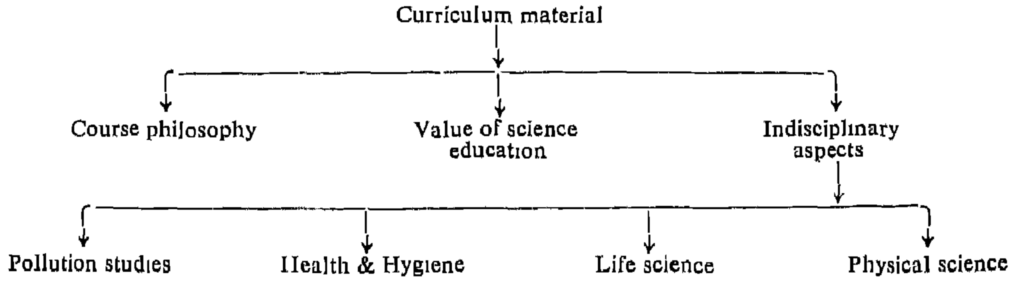
Attempts on the part of Government and voluntary organizations to make the pupils aware of modern science, even after 40 years of our independence, are few and far between. The handbook titled "Integrated Science Curriculum" for Classes VI to VII published by the National Council of Educational Research and Training is praise worthy. However, there is no mention in the handbook of science education for Classes III to V though science is taught in these classes also. Moreover, talents, interest, aptitudes and cognitive development of the student have also not been considered. Therefore there is need for such a curriculum which is responsive to the needs not only of general students but also of disadvantaged students of society.

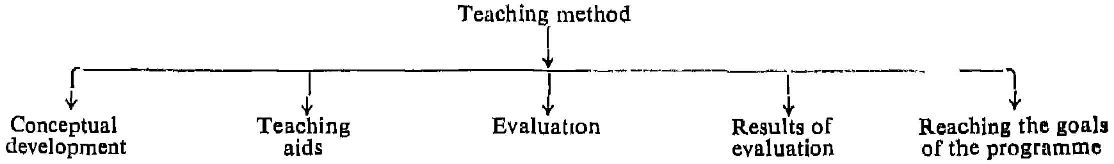
A schematic representation of the proposed model for Science education is given at page 61.

Presentation

Considering the three stages, namely preoperational, concrete operational and formal operational, of a student from his childhood to mental maturity as suggested by Piaget for growing concept of a subject, one should select a curriculum and a method of teaching the subject suitable for the student. From the above discussion it seems that teaching science at primary stages be motivated in such a way that the concept of science grows in the mind of the student on the basis of the experience of his daily life. The history of the teaching-learning process starting from the Vedic system ends at present with the cybernatic system through a series of evolution of teaching methods. Demonstration, heurastic, co-relation,


Nature
Environment
Society
School
Contact with the guardians of disadvantaged students
Popularisation of mass media programmes
Curriculum material
Teaching method





micro-teaching, mini-teaching, etc. are worthy to mention for teaching science. Before advocating a particular method of teaching, our emphasis should be on a science teacher presenting the subject before the students with a view to framing inter-relations among different topics of the subject. With this aim in view, we like to hold 'Key Concept' idea for teaching science particularly in primary classes. In a recent paper we suggested 'Nature-Matter-Energy' as the key concept for teaching science in schools. It is thus important for a science teacher to raise the standard of low achievers by creating interest about science education, instead of enthusing a few gifted ones to become tomorrow's top scientists.

Experimental Design

An experiment was conducted in a Senior Basic School situated in a mixed rural area where the percentage of population is as follows :

50% belong to the Scheduled Tribe Community.

30% belong to the Scheduled Caste Community.

20% belong to the General (economically backward) Community.

The experiment was conducted on the students of Classes IV and VI. The results of the annual examinations of the previous years showed that the general performance of the students of Class IV and Class VI in Mathematics and Science was below standard. Some of the causes of low performance were first classified as (i) sociological, (ii) economic backwardness, (iii) psychological, (iv) physiological, and (v) genetical which result in various traits in students like (i) lack of interest, aptitude, attention and motivation, (ii) weak intelligence, (iii) poor retention capacity, (iv) weak cognitive development, (v) low self-concept, (vi) lack of logical thinking and reasoning, (vii) lack of practising 'trial and error' system, (viii) problem of indiscipline, and (ix) problem of patience in respect of staying in schools Before measuring the various factors, the I Q. of the students was tested by the authors on the Binnat-Simon Scale since intelligence has been considered as a vital factor which influences the achievement of students in the prevailing system of education. The number of students of Class IV and Class VI were 40 and 30, respectively. The ratios of the students to S.T., S.C., and other backward communities of both the classes were 5·3:2 and 3:2:1.

From Table 2, it appears that the students were initially of low intelligence Maximum of them belong to low average value having I.Q. between 81-100.

Before starting the class work, the authors made close contact with some of the guardians of the students and necessary arrangements like seminar, model-show, film-show, etc. were made for popularization the programme. The programme of mid-day meal also encourages the students in regular attendance as well as in staying in school in large numbers. The students of Classes IV and VI were taught by the conventional method of teaching from the view-point of 'Nature-Matter-Energy'. The performance of the students was tested by the 'examination-cum-evaluation' system at the end of each unit. After three months, the programme of popularising science was again arranged. In this way the authors were able not only to arouse interest among the students but also to create an atmosphere conducive to science education. After merely six months the students were administered the science concept test developed by one of the authors, keeping in view the local environment as well as the NCERT curricula. Following Gadkari, the mean difference and S.D. of the scores of the science concept test and those of the initial performance are tabulated in Table 3

On null hypothesis it appears from Table 3 that the true difference between Test I and Test II is zero. The mean difference of high achievers of Class IV (6'6) and Class VI (6'3) indicate the significance of our demonstration method of teaching which ends in the examination-cum-evaluation system. The significance difference in S D. of the initial test and Sc.C. Test for high achievers of Class IV('6) and Class VI ('4) also shows the effectiveness of our process for the students having I.Q. in the range 96-110. The difference in S D. for low-achievers of Class VI is also significant in the sense that students of the age-group 11 and upward having comparatively low I.Q. (70-95) show more capability of following such a modern method of acquisition of scientific concepts. This is perhaps due to the fact that cognitive development of students of rural areas unfolds usually at high chronological age. Hence we can summarise the results of our findings as below :

(i) Both the classes show a significant gain in the science concept tests.

(ii) The gain is much significant for low and high achievers of Class VI and high achievers of Class IV.

TABLE 2

Class	Binnat I.Q.	Frequency Distribution						
		Low Achievers		High Achievers				
		Very Dull	Dull	Low Average	High Average	Bright	Very Bright	Extremely Bright
Class IV	61-65	4						
	66-70		5					
	71-75		5					
	76-80		4					
	81-85			3				
	86-90			3				
	91-95			5				
	96-100			6				
	101-105				2			
	106-110					2		
	111-115						1	
Total		4	14	17	2	2	1	40
Class VI	61-65	2						
	66-70		4					
	71-75							
	76-80		4					
	81-85			3				
	86-90			2				
	91-95			4				
	96-100			7				
	101-105				2			
	106-110					1		
	111-115						1	
Total		2	8	16	2	1	1	30

TABLE 3

Class V	Students	Scores			Class VI	Students	Scores		
		Initial I	Final II	Diff. II-I			Initial I	Final II	Diff. II-I
	A	16	22	6		A	15	20	5
	B	15	21	6		B	15	21	6
	C	17	22	5		C	17	22	5
	D	18	23	5		D	19	22	3
	E	20	25	5		E	20	25	5
	F	21	27	6		F	21	25	4
	G	22	28	6		G	25	30	5
	H	20	24	4		H	30	29	1
	I	21	26	5		I	25	30	5
	J	21	27	6		J	30	34	4
	K	25	30	5		K	32	38	6
	L	25	32	7		L	32	39	7
	M	26	32	6		M	33	38	5
	N	27	33	6		N	35	42	7
	O	28	34	6		O	30	37	7
		30	35	5		P	38	44	6
	Q	30	36	6		Q	32	40	8
	R	30	35	5		R	40	45	5
	S	36	44	8		S	39	46	7
	T	37	44	7		T	40	45	5
	U	38	46	8		U	40	44	4
	V	40	48	8		V	42	49	7
	W	42	50	8		W	43	50	7
	X	43	53	10		X	43	51	8
	Y	44	51	7		Y	40	47	7
	Z	45	52	7		Z	45	50	5

Class IV	Students	Scores			Class VI	Students	Scores		
		Initial I	Final II	Diff. II-I			Initial I	Final II	Diff. II-I
	A_1	46	54	8		A_1	45	50	5
	B_1	44	52	8		B_1	50	54	4
	C_1	44	53	9		C_1	53	60	7
	D_1	45	53	8		D_1	55	61	6
	E_1	48	56	8					
	F_1	50	56	6					
	G_1	52	56	4					
	H_1	52	58	6					
	I_1	53	58	5					
	J_1	55	60	5					
	K_1	55	62	7					
	L_1	58	64	6					
	M_1	57	64	7					
	N_1	60	65	5					

ANALYSIS OF DATA

Achievement Classification	No. of Pupils	Mean Around		Mean Diff.	S.D Around		Diff in S.D.	Co-efficient of Variation	
		Test I	Test II		Test I	Test II		Test I	Test II
Class IV									
Low Achievers	18	22′8	28′4	5′6	4′9	4′8	0′1		
High Achievers	22	48′1	54′7	6′6	6′8	6′2	0′6		
Entire Class	40	36′4	42′7	6′3	12′8	12′7	0′1	35	29
Class VI									
Low Achievers	10	21′7	25′8	4′1	5′1	4′4	0′7		
High Achievers	20	40′3	46′6	6′3	6′8	6′4	0′4		
Entire Class	30	34′1	39′6	5′5	10′7	10′5	0′2	31	26

(iii) The co-efficient of variation of the two tests in respect of both the classes (IV and VI) show that the scores due to Test II are much consistant than those due to Test I.

(iv) Though the method consumes a little more time and causes extra expenditure, yet the gain achieved here is more significant than that obtained usually by the traditional method of teaching.

Conclusion

Thus the programme of popularization of science education and the 'Unit Test' method of teaching basing on the key concept of 'Nature-Matter-Energy' helped the authors not only to improve the academic achievement of the students but also to create a healthy atmosphere for education even in an extremely remote village. Though the programme is different, to some extent, in comparison with the traditional method of teaching, yet it has much educative value not only for the students but also for other village people who are mostly illiterate.

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Education and Human Resource Development

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THE National Education Policy (1986) equates education with human resource development. Following the spirit of the policy, a number of traits are identified, interpreted and educational institutions' role in the development of these traits is stated in the form of a table.

The purpose of the table is : to redefine and highlight the role of schools and colleges in human resource development in the formative years between 6 and 20; to provide a basic reference for the development of certain positive traits in educational institutions and to initiate further discussion in this line, not to undermine the importance of family, mass media, etc. as agencies for human resource development; not to pave way for stereotyped individuals enslaved to certain codes, but to internalise certain values and skills which will make people resourceful, independent, healthy and totally developed individuals who will be assets for themselves and for society.

While identifying the traits, as many domains as possible have been included, taking into account the need for comprehensive development of individuals; suitability of traits to the socio-economic conditions of our country; maintenance of a balance between the following antithetical factors : introversion vs extraversion; theoretical vs practical; individualistic vs socialistic, manual vs mental, specialisation vs generalisation.

The interpretation of the traits is based on universally accepted definitions and on personal convictions. The institutional process is deliberately stated in general terms to enable individual interpretation and implementation.

Domain	*Name of trait or characteristic*	*Description of trait in terms of what the student knows, feels and does*	*What an educational institution offers in terms of provision of facilities, teacher development, institutional processes*
1	2	3	4
Physical	(i) Awareness of physique	(i) Knows the nature and functions of bodily organs	(i) Human physiology is taught.
		(ii) Aware of common diseases, their causes, symptoms and remedies	(ii) Library is equipped with health magazines.
		(iii) Adopts right postures while sitting, standing, walking and sleeping	(iii) Films on health care are screened
		(iv) Keeps the surroundings clean.	
	(ii) Development of physique	(i) Knows the nutritional value of foods	(i) Films on nutrition are screened.
		(ii) Conserves and desirably directs physical, mental and emotional energies.	(ii) Facilities exist for indoor and outdoor exercises and games.
II Mental	(i) Self-knowledge	(i) Knows one's own aptitudes, interests and motives	(i) Feedback regarding one's aptitudes and interests is given by means of proficiency tests, interest tests and aptitude tests.
		(ii) Aware of one's own strengths and limitations	(ii) Teacher offers casual and tactful comments to help self-evalution.
		(iii) Sets realistic goals.	(iii) Diary writing habit is encouraged.
	(ii) Hopefulness	(i) Maximises strengths and minimises limitations.	(i) Autobiographies of high achievers are included in the syllabus.
		(ii) Works with imagination and determination.	(ii) Counselling is offered to set goals and to tolerate furstration
		(iii) Actualises one's potentialities.	
		(iv) Tolerates failures and frustrations.	
III Intellectual	(i) Concept-forming ability	(i) Can identify similarities and differences in things	(i) Tests are developed and administered to assess the concept-forming ability.

1	2	3	4
		(ii) Can think and express logically, precisely and clearly. (iii) Can comment on what one sees, reads and does. (iv) Can communicate effectively in a few human languages	(ii) A few languages are taught—taking into account the needs of the learners
	(ii) Learning ability	(i) Learns and trains oneself independently and continuously in social ways and in a field of one's choice.	(i) In addition to lecturing, many other learning experiences such as educational tours and field trips are organised.
		(ii) Learns by doing as well as by reading.	(ii) Teaching and testing methods are geared to promote learning and not memorising.
		(iii) Becomes stronger and wiser by learning and by experience	(iii) Degree is made a reflector of one's abilities and not a passport to jobs.
	(iii) Problem-solving ability	(i) Understands and analyses problems	(i) Encouragement and help are given to solve personal life problems.
		(ii) Provides original and constructive solutions to problems	(ii) Classroom exercises, practicals and proficiency tests demands involvement of mind in solving problems.
	(iv) Specialisation	(i) Knows one's own aptitudes and interests	(i) Specialised knowledge and training are offered in a variety of areas.
		(ii) Acquires specialised knowledge and expert skills in a chosen field by book reading and by practice.	(ii) Specialised knowledge is linked to actual future work.
		(iii) Offers expert contribution in the specialised field.	(iii) Exposed to books and experts in the area of specialisation.
		(iv) Uses specialised knowledge in science, technology, etc. for constructive purposes.	
IV Social	(i) Social awareness	(i) Understands the systems and functioning of society.	(i) Fundamentals of social systems and processes are taught.

1	2	3	4
		(ii) Realises oneself as an inevitable member of society (iii) Responsive to familial and social needs. (iv) Involves oneself in a socially useful productive work. (v) Doesn't oppress the disadvantaged. (vi) Behaves decently in interpersonal or public relations. (vii) Can't generalise personal problems into social problems.	(ii) Training in team work or co-operative work is given. (iii) Projects such as road laying and tree planting are taken up where students mingle with the mass and work.
	(ii) Belief in social consensus	(i) Has empathy—can put oneself in other's position and understand his point of view. (ii) Takes up debates, discussions and consensus formations as social problem-solving methods. (iii) Disagrees politely.	(i) Students solve their common problems by means of group discussions arranged frequently under the guidance of teachers.
V Economic	(i) Economic sense	(i) Has a sense of essentialness and luxury (ii) Frugal and unostentatious in expenditure. (iii) Earns through productive employment (iv) Fair and scrupulous in economic competition.	(i) Opportunity exists to earn while learning. (ii) Saving habit is developed
VI Moral	(i) Sense of right and wrong	(i) Discovers moral principles by applying the criteria of individual good and social good (ii) Has moral conscience (iii) Has the will to do the right despite difficulties.	(i) Traditional didactic teachings in the form of proverbs and verses are discussed in classes. (ii) Controversial moral issues are debated. (iii) Teacher sets a model for moral behaviour.

1	2	3	4
	(ii) Truthfuless	(i) Perceives objects, institutions and persons without prejudice, emotional bias and hasty generalisations.	(i) Honesty and truthfulness are encouraged and rewarded
		(ii) Accepts and faces truth or reality.	(ii) Training is given in the process of analysis and experimentation.
		(iii) Can distinguish between appearance and reality.	
		(iv) Has spirit of inquiry, analysis and experimentation.	
		(v) Doesn't act on the basis of incomplete information.	
		(vi) Has readiness to admit one's own ignorance.	
VII Cultural	(i) Self-reliance	(i) Doesn't live on the labour of others.	(i) Habit of self-help is cultivated.
		(ii) Realises the importance of reciprocal and mutual help.	
		(iii) Neither oppresses others nor gets oppressed by others	
	(ii) Work ethics	(i) Does hard, consistent, voluntary and productive work.	(i) Curriculum is related to future vocation
		(ii) Does mental and physical work	(ii) Opportunity is provided to earn while learning
		(iii) Plays one's role well in a work situation.	(iii) Recreation facilities exist.
		(iv) Treats and makes work a pleasurable activity.	
		(v) Knows the importance of rest, recreation.	
		(vi) Uses leisure for cultural activities.	
	(iii) Humanism	(i) Has genuine love for all human beings.	(i) A desirable inter-student and teacher-student relationship exists in educational institutions.

1	2	3	4
		(ii) Has faith in goodness and perfectibility of human beings.	(ii) A system of rewards and commendations exists for promotion of human goodness.
		(iii) Recognises the basic equality of human beings and at the same time recognises special abilities in people.	(iii) Systems of punishment are replaced by systems of reformation.
		(iv) Hates, not the evil doer but the evil.	
	(iv) Pursuit of excellence	(i) Can perceive and appreciate truth, beauty, and goodness found in people and objects.	(i) Opportunities exist to bring out excellence
		(ii) Has consciousness of quality while producing goods and services.	(ii) Quality is insisted on in the work done during study
	(v) Senese of humour	(i) Looks humorously at incongruities and ironies in human existance.	(i) Exposure is given in the art of good humour.
		(ii) Looks humorously at one's own limitations and failures without indulging in self-pity.	
		(iii) Eschews quality and vulgarity in humour.	
VIII Spiritual	(i) Spirituality	(i) Recognises man's incapacities vis-a-vis the forces of nature.	(i) Spiritural experience is imparted.
		(ii) Conscious of essential loneliness of a human being and inevitability of death	
		(iii) Can transcend the rational and realise the supra rational.	

References : (i) Inaugural address by Shri Rajiv Gandhi, Prime Minister of India at the Conference of Education Ministers of States and Union Territories on 29 August 1985.

(ii) Consensus arrived at the Conference of State Education Ministers, 29-30 August 1985.

(iii) 'Challenge of Education'—A Policy Perspective—Ministry of Education and Culture, August, 1981, New Delhi.

Book Reviews

Perspectives in Creativity

N.K. Chadha, Ess Ess Publications, New Delhi, 1985, pp. 181, Price : Rs. 125/-

CREATIVITY is a concept first propounded by philosophers. In the beginning it was claimed that God is the only creater and universe is the product. Scientific investigations in the field of creativity led the researchers to establish certain psychological, social and educational factors responsible for creative work within the individual. The pioneering work of Torrance Guilford and others is the torch bearer for the recent researchers in the field of creativity. In India not much work has been done in this area and it is a very promising field both from educational and psychological point of view. The work of Dr N.K. Chadha, the author of the book under review, is a step forward towards understanding the creative potential of school students and their psychological implications.

The book presents the what, how and why of creative potential. Divided into eleven chapters, the book covers a fairly wide range of creativity by explaining the nature of creativity, measurement, literature on creativity, problems, educational implications and relationship to important personality factors, adjustment factors and intelligence The first two chapters highlight different notions about creativity, different definitions, the nature of creativity and the need to study creativity. In other words, in these chapters, the author has just tried to form a ground for his work on the basis of 'quoted work' of the pioneers in the field.

In the third chapter, the author has tried to present the studies which could prove to be of significant value in providing an understanding of creative potential .This chapter specifically deals with creativity and intelligence, creativity and achievement motivation, adjustment and creativity and scholastic achievement. From this, one can get an overall idea regarding the work done in the field of creativity in India as well as abroad.

In the fourth chapter, the author has discussed different approaches to creative measurement. It describes different criteria to measure creativity. It would have proved more useful for researchers, had the criteria been spelt out more clearly and in detail.

The next six chapters are based on an empirical study in which an attempt has been made to verify certain objectives related to creativity. Chapters 6, 7, 8, 9 and 10 deal with the statement of objectives, hypothesis, sample, tools and techniques and statistical techniques used to interpret the data obtained, interpretations, and conclusions.

The last chapter gives an overview. This chapter can prove to be of great relevance to educationists and teachers, since here the author has tried to give some suggestions, based on empirical evidences, as to how creative atmosphere can be generated in school setting and how we can promote creativity in children.

Although there are several excellent books on creativity by foreign as well as Indian authors, yet the present book has its own value, for its twin objects of lucidity of style and simplicity of expression go a long way in removing the awe which is usually associated with most books.

Prof R.G. Chatterjee, in his foreword, has summed up the entire book succinctly: "This book will satisfy the reading needs and interests of two different sects of readers, namely: social scientists and general reading public. This book will be useful for students, teachers, researchers, as well as general readers Parents would also find this book most informative".

SUNANDA CHANDNA

Teaching Mildly Handicapped Children : Methods and Materials

G.E. Marsh II, J.B. Price, and T.E.C. Smith, The C.V. Mosby Company, St. Louis, Toronto, London, 1983, pp. 448, Price : Not mentioned.

SPECIAL education is at a crossroad During the last decade significant advances have been made to secure rights for handicapped children through legislation and litigation. The uniform regulations subsequent to the Education of All Handicapped Children Act (Public Law 94-142) provided a foundation for determining basic equality for all handicapped children in the United States regardless of a school district's wealth or breadth of services. Systematic educational programming would be available by means of the individualized education programme (IEP). Perhaps many educators failed to recognize that the implications of PL 94-142 would affect the entire field of education, not just a minority of handicapped students. Underlying the mandates of PL 94-142 was a clear direction for all of education. It would be possible to transform the field from a system of group expectation and normative comparison to a system of mastery learning based solely on educational criteria.

The term 'mildly handicapped' has been applied in this text to a large group of students to include any handicapped child who differs from non-handicapped children in cognitive-academic, sensori-physical or socio-emotional characteristics to such a degree that special education and related services are required, but not to such an extent that segregated special class placement is essential for such services.

Ordinarily this will be a child who is labeled in the traditional categories of mental retardation, learning disabilities or emotional disturbance or behavioural disorders. However, it may also include many other children who may benefit from regular class instruction, such as those having hearing and vision loss and those with physical and health conditions that do not preclude regular class placement.

A mildly handicapped child is functionally defined as one who may participate in and benefit from regular classroom placement because there are no severe limitations imposed by cognitive-academic, socio-emotional, or sensori-physical handicaps.

The arrangement of teaching mildly handicapped children is based on the systems approach. The first section, Chapter 1, provides an overview of various issues and sets the focus of the text. The general rationale of non-categorical and mainstream programming is presented, and the problems involved in it are identified. The remaining chapters of the text deal with the many issues confronting educators who are attempting to conceptualize shared educational responsibility.

The second section, Chapters 2 and 3, deals with the learner. Chapter 2 concerns assessment in much greater detail than commonly covered in a methods textbook. The reason for this arrangement is that the basis for all special education planning must begin with assessment. The textual coverage is limited to the major types of educational instruments usually administered by the teacher and the instruments are categorized, according to the model included in this chapter, into the areas of cognitive-academic, socio-emotional, and sensori-physical functioning.

The fundamental plan in special education is the individualized education programme (IEP). Chapter 3 is presented as a comprehensive description of the IEP, a description of the means by which assessment information may be used in developing specific parts of the IEP, and a description of the problems associated with the IEP.

The third secction, Chapter 4 through 12, deals with the school programme. Chapter 4 is a description of the elementary school and its organization and administration and a discussion of the many issues that pertain to the education of handicapped children. From a systematic viewpoint, understanding the elementary school is important for the special educator, who will need to be able to anticipate problems in the school that are defined generally by the roles of various persons in the school environment

Chapter 5 concerns the role of the special education teacher under the prevailing conditions of contemporary special education. Various issues and roles are described in relation to the practical problems of designing and delivering services to handicapped students.

Chapters 6 to 10 provide coverage of topics in teaching under the cognitive-academic, socio-emotional and sensori-physical areas of need. Chapters 6 to 8 deal with reading, expressive language, and arithmetic. Chapter 9 is a comprehensive coverage of various approaches to meeting the socio-emotional needs of handicapped students. Chapter 10 provides the regular and special educator with information important for aiding in the adjustment of children who have any of a variety of impaired sensory or health conditions or who require prostheses and special equipment. Chapter 11 includes a discussion of the competencies of the regular classroom teacher, examples of strategies to be used in accommodating the regular education environment to meet a variety of needs of handicapped learners, and suggestions for the special educator who may initiate compensatory approaches.

The final chapter of the textbook, Chapter 12, deals specifically with coordination of the programme and effectively implementing the strategies outlined in the first several chapters. A comprehensive approach to implementing the IEP, described in the chapter, draws on the many issues, concepts, and approaches of the previous chapters.

Written in simple language, the book carries book references at the end of each chapter. There is also a detailed subject index at the end of the book, which helps the reader to find out a purposeful topic related to his work.

Even though the book does not deal with learning disabilities in detail and misses discussion on the applied field of special education, yet book still fulfils its aim by which social workers, psychologists, educationists, psychiatrists, teachers and researchers will be benefitted considerably.

RAMESH KUMAR SHARMA

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TO OUR CONTRIBUTORS

JIE invites articles/papers on the impact of educational research on classroom Practices, and policy decisions. Specific examples where this impact is apparent may be given.

GENERAL EDITOR

Education Through Technology

IN the past one decade classroom instruction has undergone a sea-change in most of the advanced countries A recent publication 'July 20, 2019' by Arthur C. Clarke has recorded those changes and made projections for future. For example, according to Clarke, a public school in Sunny Vale, California, which is financed by industries, has several uncommon features. The school starts at 8 a.m. and works up to 10 p.m., six days a week, 12 months a year, has classes from Kindergarten to higher levels, i.e it caters to all age-groups ranging from early childhood to senior citizenry. A typical classroom has at least ten computers, a trained teacher and a computer specialist. It has computerised optical discs and reading/listening books. Classroom assignments are assigned on computers and the same are completed on computers and transferred on the same to the tutor who corrects and returns them to the students on the computers themselves. Needless to say, such an arrangement obviates the need to undertake, on a massive scale, paperwork and boring classroom lectures.

At a higher level Carnegie-Mellon University is now linking its campus into a giant computer network. Here also the students will write their term papers on computers, then send them on-line to their professors, who will return them electronically, graded and annotated with comments.

In a way what has already happened forebodes the things to come. Even a poor country like India is teaching through television and computers in its schools and the UGC is gradually operating through INSAT-1B in the area of increasing the general awareness of its student population in several science subjects.

Taken together, they all have their implications for classroom instruction both at school and university levels. Unfortunately no teachers' college has taken a note of this, nor has any university department noticed all these developments. Therefore, it is natural that they are not bothered about the uses or abuses (if any) of these technological revolutions. But why ? Are they expecting that all these developments will remain confined to the boundaries of developed nations alone or would they want them not to enter their classrooms ? The fact is that changes have already occurred and cannot be denied access So why not do something about it ? Perhaps the best thing would be to talk more about them at the academic forums. Prepare plans for their gradual introduction. In other words it would be better to familiarize oneself with both the concept and practice of technology in the classroom instruction as a whole. See, what changes will that bring about in the teachers' performance in the classroom. Perhaps an ordinary teacher might soon become a technician in the face of canned lectures, computerised instruction and evaluation. What are we going to do about it, somebody should ask ? May be then we have some answers.

GENERAL EDITOR

Candid Classroom Videotapes : Implications for Distance Education

H.C.S. RATHORE*

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THE use of broadcast television in distance education has two serious limitations: first, it is not compatible with the basic requirement of distance education, that is freedom of the point of time of study, because all the students have to watch and learn at the same fixed time when the programme is telecast. The present experience world over indicates that this time in most cases is either at odd early mornings or at late night hours, which is very inconvenient to most of the students ; second, "it does not stop to answer questions ; it does not readily permit classroom discussion ; it is an inefficient medium for conducting drill ; it does not adjust very well to individual differences ; and it tends to encourage a passive form of learning" (Schramm, 1971).

Today we know that videotape with all the presentational characteristics of the television has the potential to overcome to a great extent the above-stated limitations of the broadcast television. With a video cassette player the student, now sitting in a comfortable chair with a remote controller in hand, can play, replay and stop as many times the portions of the delivery s/he wishes, at times that are most comfortable to her/him. It is then clear that if we switch over from telecast delivery of the instructional material to video delivery, the incompatibility of study at a fixed time is tackled. The second limitation of television then is a matter of instructional video design.

This potential of the video led to experiments in designing the video material in ways that could be an economic and effective solution to the second set of limitations of the television pointed by Schramm (1971) and make the video an effective didactic medium to reach the distance learners. Besides the studio made documentary style videotapes, some of the major new designs that have come to light are (1) 'the real life films on video' (Durbridge, 1982) used in the Open University U.K.; (2) 'overtly didactic approach to video presentation' (Lasser and Stanford, 1984) at the Fern University in West Germany ; and (3) 'candid classroom ITV' (Hutchinson, 1982) or tutored video instruction (TVI) with candid classroom videotapes (Gibbons et al. 1977) used by the Association for Media Based Continuing Education of Engineers (AMCEE) in the USA. The first two designs are still in the experimental stage and it is a little difficult to make any generalization about them before sufficient data come in. However, candid classroom videotapes have been used, with a claimed success at a very large scale for more than a decade now, to provide tutored video instruction for the continuing education of engineers at distance in the USA. Impressed by their large scale utilization and success, Stephen (1984) not only made a strong recommendation for the adoption of this American approach in the UK but also titled his paper as "The Videotapes Course Revolution".

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What are candid classroom videotapes ? How are they used in distance education ? What advantages and implications they have for distance education ? These are some of the questions that are attempted to be answered in this paper.

Candid Classroom Videotapes : What are They?

Webster's New World Dictionary defines CANDID to mean "unposed and informal" in its secondary definition. The candid classroom does not pose as a originating site for polished TV productions ...... instead, it focuses on predefined educational outcomes and uses video to electronically extend the classroom walls (Hutchinson, 1982).

Candid classroom videotape, therefore, is an unposed and informal recording of a regular on-campus class. It enables the viewer to see and hear everything the on-campus student in the class sees and hears. The common sense notion behind is that the original class can be taken to the distance student through the videotape. The assumption is that when the distance student watches this videotape on his TV set he identifies himself with this on-campus class and has an additional benefit of interrupting the lecture which otherwise is impossible. Although not participating actively in this on-campus class, s/he is assumed to receive feedback from the questions and discussion of her/his on-campus colleagues.

The candid classroom, as opposed to a television studio, maintains a traditional classroom motif (Hutchinson, 1982). To achieve this, unlike a typical studio which has a proliferation of cameras, microphones, lights, cables and other equipment along with a production team, the candid classroom has television cameras and other apparatus placed in unobtrusive locations and operated by remote controls from an adjoining control room. Normally three cameras are placed in such a way that these cameras can film each and every minute activity going on in the class without the class being aware of this. To capture the image and activities of the professor, a camera is located in the rear of the classroom usually mounted on a unit that allows to both pan and tilt in its planes. This camera, which is usually mounted with zoom lenses, follows closely the professor's activities. Whenever necessary, the motorized zoom lens is operated to take close-ups of the writing surface or any material for demonstration which the professor wants his students to observe closely. A second such camera is mounted on the ceiling just above the professor. The main function of this camera is to capture images and close-ups of all that material that lies on the professor's table or podium. Third camera is placed in a location from where it can take images of all the activities of the students in the class. This camera is specifically important as it takes the voices and pictures of the students during the discussion and/or questions during the lecture.

Another vital component of the candid classroom is a good microphone system. The professor's microphone is a radio or lavalier microphone that does not require wires. This microphone is 'live', in that it does not need to be activated each time by a switch before speaking, and is usually clipped to the tie or coat of the professor. Another set of microphones is installed on the desk of each student. These are sometimes 'live' and sometimes microphones that require activation by a switch prior to speaking. There are advantages and disadvantages of each type. The later tends to inhibit student participation while the former degrades the quality of the sound track as they pick up all the distracting noises such as rattling papers, moving chairs, student whispers, etc.

In this way, with the help of these unobtrusively placed cameras operated by remote controls, the candid classroom minimizes the distractions that are caused in the studio by the equipment and the production team. But this sometimes leads to a, so to speak, technically poor quality videotape. "Efforts are made through such a means as electronic technology, production techniques, and trade-offs between 'broadcast quality' and acceptable images for ITV to maintain classroom environment where the video recording does not distract from the teaching activities of the instructor and the learning experiences of the on-campus students" (Hutchinson, 1982).

A candid classroom videotape, therefore, is a faithful and reliable recording of a normal on-campus class free from any distractions caused by the typical studio environment such as bright lights, proliferation of cameras and other equipment, and rigorous technical quality controls as cuts, retakes or editing usually associated with commercially produced television programmes. The candid classroom videotape, when replayed, simply acts as an electronic media to extend the walls of the original on-campus class of a professor.

Tutored Video Instruction (TVI)

The researchers at Stanford University developed a new method of learning with candid classroom videotapes generally called as the Stanford Tutored Video Instruction (TVI). This method makes use of the candid classroom videotapes which are produced at a very low cost. These videotapes are mailed to off-campus students usually working miles away in industries. "The videotapes are used for the instruction of a small group of students (typically three to ten) who are assisted by a para-professional tutor as they watch the tape. For this reason the method is called Tutored Video Instruction (TVI)". The tutor may be well versed in the subject matter covered, but it is not an essential condition. The tutor's main role is to foster group discussion and group self-learning by taking advantage of the video playback's unique feature that it can be stopped, replayed or viewed at a high speed at any time the student wishes. The underlying method is based on a common sense assumption that students can learn better if they are free to interrupt the lecture at places where they need more discussion or explanation of a concept or issue. The tutor's role is to make sure that the tape is stopped whenever a need for discussion is felt. The experience of researchers' at Stanford has revealed that students learn best when the videotape is stopped every five to ten minutes, for a period of three to five minutes. In this way the problems and issues are resolved by the group through self-discussion, the questions that even the tutor is unable to answer are referred back to the university course professor by telephone for appropriate answers

The tutored video instruction with candid classroom videotapes offers a technique of instruction which can be called as 'self-managed instruction' The lecture in the form of candid classroom videotape provides the basic missing element in distance education that is teacher's delivery which is essential for the depth and continuity of the subject matter. The small group tutorial discussion, on the other hand, afford a means of making the lecture respond to individual needs and differences. The TVI students hear not only the questions, comments and discussions of their on-campus colleagues, but they stop the tape whenever a difficulty is encountered and resolve it through mutual discussion "In effect, the TVI format permits the students and the tutor to manage the lecture themselves and thereby create intellectually stimulating environment which enhances learning and creates a positive attitude towards the subject" (Gibbons et. al. 1977).

Years of experience at Stanford and other member universities of AMCEE in the USA shows that the engineers working in industries perform atleast as well as students with comparable qualifications on campus. Research also shows that they perform better than students who view the same videotape alone, with or without the help of the tutor. The TVI method, therefore, is a simple, economic and effective way of providing continuing higher education to a large population of students at distance.

Advantages of Distance Education

Candid classroom videotapes and their use as tutored video instruction, besides incorporating all the advantages of the video technology, offer the following pedagogical and organizational advantages of distance education.

Cope with Student's Study Habits

A casual look into the history of education reveals that, whether it was Plato's method or the method followed in the ancient 'Indian Gurukulas', the primary source of learning was through hearing the discourses of the teacher followed by doing/imitating his activities. After the invention of the Guttenberg press came books. Since then, till today, the student first hears the lecture in the class and then corroborates, substanciates and receives feedback from the books by self-study at home or in the library. So, for long, the student has been dependent on his teacher's delivery and hearing is his oldest habit. Distance education (which is at present mainly dependent on printed material) assumes that the student will become independent and will leave his old habit of hearing and seeing and will learn and acquire complete knowledge, understanding and skills only through reading. Is the present student capable of doing so independently? Clearly, the answer in majority of cases is no. Has the present system of education prepared him for this type of self-reliance in learning? We have done no significant research to get an answer to this question. Instead, the upcoming of distance universities led to an influx of books with lucrative titles as 'Methods of Independent Learning', 'Guide to Self-learning', etc May be the distance student buys these guides and hopefully reads them also. However, the question still remains, whether these books enable him to become a self-reliant learner and get rid of and over-power his old habit of hearing and seeing. Our knowledge from the psychological theories on habits reveals that it is not so easy to get rid-off stable habits, as they are more or less permanent.

If we look at distance education from this perspective, then we will have to bring about a revolutionary change in the present thinking and practice of distance education and switch over to the traditional approach of first teaching and then expecting the student to do self-study with the help of printed material. The present form of distance education is a slow outgrowth of the private study and correspondance study which a number of universities all over the world allowed some 30 years ago. It is very much possible that the propounders of correspondance study had this idea of the above-mentioned revolutionary change, but they could not put it into action because they were at that time technologically handicapped to do so (however, the use of educational television from early 1960's points to this felt need). But today we have the technology by which we can provide the classroom experience to the distance students. As such the present practice of supplying printed learning material first (which is often too much) and then exploiting the other technological media to provide feedback will have to be reversed in order to cope with the traditional learning habits of our students. It is clear that this reversal can be achieved through the employment of candid classroom videotapes in the form of tutored video instruction.

Structured Knowledge Integrated with Text

Candid classroom videotapes, besides having all the advantages which the video format has in general and over broadcast television in particular (for a discussion of these advantages see Bates, 1984 and Brown, 1984), presents the structure of knowledge in a way that offers little or no scope for students' misinterpretations. A crucial factor for learning is the way knowledge is structured and presented. The structure of knowledge in most of the studio-made broadcast programmes is presented in documentary style (probably because it enables one to exploit the full potential of the television as a medium and broadcast time). Although Bates (1984) views these programmes to "have very important higher education objectives, they attempt to give students the opportunity to practice high-level learning skills, such as analysis, application of abstract principles to real world situations, evaluation, and generalisation". Yet at the same time the experience of the Open University (UK) shows that the students often face difficulties in relating these programmes to the text and often misinterpret them for lack of interpretive skills required to achieve the intended learning goals (see Bates and Gallagher, 1977 and Brown, 1984). These problems are least noticeable in the case of didactic, and highly structured classroom delivery where the teacher presents well-structured knowledge integrated with the previous experience of the students and proceeds in a sequence determined by specific learning objectives. Candid classroom videotapes being the extension of a normal classroom should help in over-coming these difficulties. This is supported by the observations of Brown (1984) who in this context stated that "this problem is least noticeable in the case of didactic, highly structured and neutral programmes such as laboratory demonstrations where the aims of the programme are explicit, clearly related to the text, reflected in the structure of the programme itself and where there is no emotional content".

Encourage Active Learning

One of the problems with the broadcast-studio-made documentary-style video programmes is that they encourage passive observation among students and are poor in feedback. Brown (1984) writing about the future developments in video cassette design noted that "Two distinct forms of video cassette design seem likely to emerge. The first, for the group use, will stress open-ended analysis and discussion with fellow students or tutors. An example of this form is tutored video instruction (TVI) . . A second form of the video cassette design will be for individual students and will move towards more interactive forms of video". The use of candid classroom videotapes as tutored video instruction (TVI) has already been found educationally and organizationally effective and economic. For example, the electrical engineers studing in small groups with or without tutors have been found to out-perform on-campus students with comparable qualifications. "It is (or can be) educationally more effective than either classroom or televised instruction, especially for marginally qualified students. This is primarily because it permits students to ask more questions and, through organized discussion, to find more answers for themselves than they could in either of the two formats" (Gibbons et al 1977).

What is the effectiveness of a candid classroom videotape when viewed individually ? Are they more (or satisfactorily) interactive than documentary-style videotapes ? Although, there is not sufficient research evidence to give an acceptable answer to these questions, yet the present author's speculation is that when viewed individually they can also be more interactive, because with the candid classroom videotape the student sees and hears the comments that were made and the questions that were asked by the students in the class when the videotape was recorded. Further, if there was some activity (say a mathematical problem) that was given by the professor to the class, the distance student also has the time and opportunity to take up this activity along with his campus colleagues and get on the spot feedback from the further delivery of the professor. In addition, there is a possibility of making a candid classroom videotape more attractive by giving pre-training to the professors by asking them to alert the students to the important informations by giving summaries or asking questions ; give more classwork and exercises and consider remote students by addressing them into the camera on appropriate occassions. Further, the distance student can be provided, along with each videotape, printed instructions with do's and dont's, when to stop for what and when to switch on to get feedback and so on. However, this is a speculation which needs to be researched upon to examine this possible utilization of candid classroom videotapes.

Making Available Best in the Field

Not all specialists are good teachers, not all teachers are specialists, and those who are both are exceptions. A campus student has no choice but to attend lectures of the permanent faculty members. Unfortunately, many of them do not belong to this category of exceptions A distance student who up to now was deprived of even hearing normal classroom lectures, can not only be provided the opportunity to hear the lecture, but be provided the advantage of hearing the lectures from exceptional teachers through the candid classroom videotapes. For example, it should be possible to identify specialists in the field who are also considered as teachers of exceptional repute and to make recordings of the classroom delivery of these teachers. This approach, besides providing exposure to the students of the best available in the field, will also make these videotapes more attractive and motivating to the distance students. He not only has the so-far-denied opportunity of hearing the on-campus lectures, but has the advantage of hearing the best man on the subject in the world. Is it not a matter of pride, for example, to learn about the structure of 'Gene' from Khurana in his own laboratory where he discovered it ? This is a feeling, which is certainly very important in distance education.

Easy and Economic Production

In the majority of distance universities, which are using video or television for instruction, the production of video material is in the hands of professional media experts, who influence the design and presentation structure of the learning material to a very great extent. This may be desirable from the point of view of the quality of the material but has resulted in what Bates (1984) calls "the distancing the teacher from the design of the programmes" and has been a source of conflict and dissatisfaction among subject experts. The very design of the candid classroom videotapes removes this problem altogether. There are no media experts, only a professional photographer is required and his role too is simply to operate the cameras from a remote control.

Last but not the least, the cost and the time required for the production of a candid classroom videotape is very less as compared to the studio-made programmes. It may take months to develop a video programme in the studio because of the quality restrictions imposed by the media experts leading simultaneously to an enormous increase in the production cost. On the contrary, it takes just 50 to 60 minutes (the length of the lecture period) to produce a candid classroom videotape. Of course, many of the media experts and professionals may criticize these video programmes for their low visual and sound quality. On this point Stephen (1984) observed that "one can always rely on Americans to seek value for money. Their requirement is for the information they need, as quickly and conveniently as possible, at minimum cost. Any unnecessary improvement in quality results in delay and increase in cost". However, it is very much possible that the initial reaction of the viewers, whose only experience with the television is that of emitting from broadcast companies, to the production quality of this material will be negative. However, "after a short period of exposure, provided the quality and level of the content is appropriate to the viewer's needs, it rapidly becomes acceptable" (Stephen, 1984).

Implications

The advocates of the technological media in education see a great future for video in distance education, though still, at present, they hesitate to make any firm recommendation for its adoption. One prominent reason for this is that they do not find video apparatus available with majority of their students. In principle, the availability of a video machine at home is necessary when the study site is a student's home. What if the study site is the place of work? Naturally, a video machine should then be available at the place of work. Candid classroom videotapes have very important implications with no major financial or organizational problems for study at the place of work.

Most of the distance universities world over have been founded to serve a major aim of providing continuing education for the working people. These universities responded to this aim by offering relevant courses probably based on the assumption that 'continuing education is more an individual need and that s/he will be motivated for upgrading her/his knowledge and take up these courses'. The constitution of the student population (approx. 30-40% working people) is often taken as an indicator of the success achieved by these universities in fulfilling this aim. How many of these students really completed these courses with success ? What were the individual and organizational costs per successful student ? Anyone would hesitate to quote these statistics as they are not satisfactory and the costs are also very high. Inspite of the fact that these universities are spending a major portion of their budget on providing and maintaining student support services, the dropout and failure rates are very high, leading consequently to an overall increase in cost per unit. The most frequently put argument in defence is that the working students because of their commitment to employment fail to cope with the requirements of their studies and dropout or fail. This is an escapist argument and does not remedy the problem. Even if this and other probable arguments in defence are held to be right, then the question is, what could be done to get rid of this problem? What alternatives do we have?

As an alternative we may adopt the approach followed by the Association of Media Based Continuing Education of Engineers (AMCEE) in the USA, which is based on a more pragmatic assumption, that is, 'continuing education is more a need of the organization employing these individuals, because it is a question of existence for them in the ever increasing international competition as a consequence of fast growing knowledge and technology, and they will be concerned with upgrading the knowledge of their employees and provide facilities and an appropriate infrastructure for it'. If this assumption is held valid, then one can foresees that the working student will have the infrastructural support and motivation from his employer and be to a great extent relieved of the strain caused by the employment commitment. The distance universities on the other hand will be relieved of the financial and organizational burden of providing infrastructure at the study centers. The role of the distance universities will then be to identify the needs of the interested/participating organizations, to design courses to meet these needs, to produce and deliver instructional material, and do the evaluation.

This is exactly what AMCEE with a membership of about 24 engineering universities in the USA has been doing with a commendable success through candid classroom videotapes for providing continuing post-graduate education to electrical engineers working in industry and government all over the country. A large number of courses based upon the needs of the industry and instructional material for these courses in the form of candid classroom videotapes along with printed material have been developed The participating industries provide infrastructural and other facilities to the employees who are motivated to take these courses. The instructional material along with videotaped lectures is sent to these industries at regular time intervals The employees while on work at suitable times watch these tapes in small groups of three to seven persons with or without a tutor. In this way "the employees study at their place of work from a large number of universities in the world and other organizations taught by the best people in the field" (Stephen, 1984).

Since candid classroom videotapes with or without tutors have been found to be effective only for the continuing education of electrical engineers, it will be an over-generalization to say that they will have the same effectiveness in other subject areas and in organizations other than electrical industries. However, since the students can interrupt the lecture at places where they need more discussion or explanation of a point or concept, this technique combines the benefits of a classroom lecture with that of group learning. "The lectures provide for depth and continuity of the subject matter, while the tutorial discussion afford a means of making the lecture respond to individual need and differences (Gibbons et. al., 1977). While over-generalization would be dangerous, candid classroom videotapes can still be successfully utilized for the continuing education of working people in different types of organizations or settings where ever small group formation is possible. Finally, there are two important factors for the smooth and successful operation of this continuing education programme through candid classroom videotapes · one, the thrust for continuing education, willingness and cooperation on the part of organizations and two, the quality of the courses and material produced by the universities befitting the needs of the organizations.

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Science for All : Role and Competence of Teachers

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THE status of the teacher reflects the socio-cultural ethos of a society which is a reflector of its quality of life. The teacher who is motivated and inspired is an asset to society. The National Policy on Education, 1986 includes the policy statement "Teachers should have freedom to innovate, to devise appropriate methods of communication and activities relevant to the needs and capabilities of the concerns of the community". This is the essence of what one would expect of teachers, particularly science teachers who are preparing pupils for a technological society. This is precisely the reason for universalisation of science education at school stage in terms of science for all. Essentially, the idea of science for all aims at improving the quality of life of the people everywhere, in consonance with their own perceptions of the quality of life. There can be no universal definition of the quality of life, delinked from social, cultural and traditional values of the people concerned.

Science for All : Emerging Concept

It is expected that by the time we enter the twenty-first century, the target of universalisation of elementary education would no longer be an elusive commodity but a practical reality. During the first ten years in schools all the children will be exposed to science and mathematics education. Same approach will be followed in non-formal systems as well. The classes would be more heterogeneous as pupils would be drawn from all stratas of society, with varying socio-economic, cultural and natural environments. To cope up effectively with such rapidly changing situations, science education curriculum development as well as its transaction would have to meet new challenges. Meaningful knowledge, employable and useful skills and rational and scientific attitudes ought to be the consequences of the meaningful science education endeavour. The emerging concept of science for all is one such step in this direction.

It aims at improving the quality of life in a society which is increasingly dependent on the emerging and increasing interdependence of science, technology and society. The science teacher will continue to play the pivotal role with greater responsibility in the teaching-learning process in formal and also non-formal systems of education. Itis he who canprimarily generate meaningful science-related knowledge, appropriate skills and attitudes amongst the future citizens. Only he could develop competence amongst his pupils to enable them to utilise whatever they have learnt during their schooling, irrespective of age or grade at which they might terminate their school education. It is a stark reality and we are well aware of the alarming drop-outrates at various stages due to a variety of reasons. Today it sounds plausible, logical and in perfect order when we say that the science teacher is preparing his pupils to cope with the rapid socio-economic, cultural and environmental changes brought about by the ever-increasing scientific and technological developments No eyebrows would be raised on this today, as would have been the case, say thirty years ago when science was understood as facts, figures, formulae and theories : all in one !

Science teacher education programmes are no more being designed with the specific objective of delivery of science knowledge in the traditional classroom situations It is now visualised as having a broad-based function in terms of competence-based courses, which intend to equip the learner for coping with a variety of situations he is invariably supposed to face in changing situations in science education, i.e. in his role as a teacher of science for all.

The shift from performance-based courses to competence-based courses for the training of science teacher is a suitable but radical transformation. In the context of such a change, the Study Group Meeting on Science Curriculum and Instructional Materials Development (Bangkok, November, 1981), while discussing the concept of open competence observed : "We are in an age of rapid changes in the natural sciences and social situations. In order to adapt to the rapidly changing and progressing age and to contribute to the socio-economic progress it is important for all the students to acquire certain competences and attitudes to solve problems, processing appropriately fast expanding information and to think creatively. For education to assist in this, school science education programme will have to provide for teaching-learning experiences which will help develop concepts and skills which are flexible and applicable to a wide variety of situations rather than limited in scope". It was appreciated that it is neither possible nor desirable to arrive at a common simple definition of open competence in the context of 'science for all'. However learners with open competence would have acquired a growing body of appropriate knowledge, mastered specific skills and been imbibed with healthy and positive attitudes that could be subsequently applied to a variety of teaching-learning situations. By implication they would be life-long learners, sensitive to changing situations and circumstances, capable of detecting, analysing and synthesising knowledge from different disciplines and utilising the same for solving the problems of society. They would be equipped with an open mind to view the challenges in the context of rapid political, technological and socio-economic developments.

Competences and Attitudes

Broadly speaking, considerations as mentioned here could lead to four major areas of competences and attitudes considered in an integrated sense :[1]

1. Information processing
2 Problem-solving
3. Creativity
4. Decision-making

Before one proceeds to enumerate the role and competences of science teacher, one may like to briefly discuss these four areas.

1. Information Processing

Twenty-first century is synonym with 'Information Age' It will be the age of knowledge explosion in science areas as well as non-science areas. The task would be to cull out relevant information from multifarious sources, integrate these and then utilise in a gainful manner. The sources of information may still include text-books, library resources, computerized programmes, community resources, mass media in various forms and individual's own experiences gained through interactions. The teacher may be required to process the information as received from primary sources to the level of students. Utilisation may also require his capacity to handle newer technologies and equipments like computer, video and audio recorders, films, slides, etc. He would have to be willing to learn about, and manipulate, the newer technologies as and when and wherever available to him.

2 *Problem-solving*

This is the application of scientific method to real life situations. While some could be solved theoretically by the application of previously learnt concepts and theories, others may require experimentation and investigation. First of all, the task would be to sense a problem, identify the sources and causes of the problem, and to clearly visualise and comprehensively state the same. Next would be to hypothesize and decide upon the manner in which the study is to proceed within the information and infrastructure available. It could be experimental, survey or literature analyses Ability to apply laboratory techniques and procedure and use of simple equipments, instuments would be of great help at this stage. Having completed the study, the data are to be analysed, the results interpreted and the implications indicated. The results of any useful scientific solution may be made available to others and as such the need of the skill to effectively communicate the process and results, indicating areas of inadequacy, thus paving way for further work by others.

3. *Creativity*

It has been amply demonstrated through the history of science and technology that curiosity has been the main source of discoveries in science and technology It is curiosity that is the main driving force for creativity and a basic attribute of young children, to be nurtured by the teachers of science. According to Albert Baez, creative people exhibit the following behaviours :[2]

- Challenge assumptions
- See in new way
- Recognise new patterns
- Make new connections
- Construct new networks
- Take risks
- Take advantage of chance

Creative individual is also seen as one who—

- exhibits high level curiosity ,
- thinks originally, flexibly, divergently, imaginatively ;
- is able to elaborate ,
- is able to improvise, innovate and invent ;
- is sensitive to situations.

The science teacher who intends to foster and nurture creativity amongst his pupils, will identify creativity promoting settings from local situations and immediate environment. He should be able to utilise episodes from the history of science and should take risks in introducing changes or presenting new ideas. He should motivate groups of pupils to identify unsolved problems, including those with multiple solutions and those that involve values and beliefs affecting human affairs. The water cycle could lead to an excellent investigation type activity. The multi-disciplinary nature of the solution could be indicated. Probing and open-ended questions before, during, and after the investigation could provide excellent stimulus.

4. *Decision-making*

The more the technological advances and impacts, the greater would be the need of the competence to take decisions in a variety of situations. This would begin with value clarification, one's reaction towards environment, putting in order the possible alternatives taking into account the risks involved and the outcomes. How does one develop this competence in teachers ? Probably by :

- — appreciating the socio-economic impacts of technology ;
- — analysing the long-term environment and social consequences of actions or restraints ;
- — communicating the consequences properly ;
- — fostering pupils' growth in decision-making in a participative manner.

In collective decision-making, an additional competency is the ability to use group dynamics and human relation skills Respect for the opinions of others and of group decisions without necessarily agreeing with them is important. In the classroom situation, the teacher must have the ability to guide students to make their individual and collective rational decisions, rather than merely adopt the teacher's position or decision on the basis of fear of authority. It is also helpful for the teacher and students to acquire knowledge on how actual decisions in life at the personal, community or national level are made and be able to compare the methods and processes of these decisions with rational decision-making.

These four broad categorisation of competences aim at preparing a teacher equipped with, what is also known as, 'open competence'.

Role of Science Teachers

We may proceed now to examine the role of science teachers in the context of science for all. Here it may be relevant to refer to certain studies which have indicated that pupils like teachers who :

- — praised pupils' ideas ;
- -- gave less directions, commands or orders ;
- — were more indirect in their classroom behaviour ;
- — did less negative talk ;
- — asked more questions while guiding the content-oriented part of classrom discussions ,
- — possessed the requisite skills to respond pupils' ideas, talks and questions ,
- — could integrate pupils' ideas into classroom discussions ; and
- — were involved in more creative models of teaching

In one of the Unesco training workshops organised in 1985 at Islamabad,[3] participants from fifteen countries attempted to identify the possible roles of science teachers in the context of science for all and listed the following in the brain storming session :

- — Curriculum planner and developer
- — Co-investigator
- — Motivator into "science for all" activities
- — Researcher
- — Helper
- — Facilitator
- — Leader
- — Integrator across disciplines
- — Evaluator of skills, attitudes and situations
- — Change agent
- — Communicator
- — Learner
- — Conservationist
- — Guide
- — Programmer

- Observer
- Innovator
- Scientist
- Interpreter of technology
- Community development worker
- Coordinator
- Improviser
- Humanist
- Realist
- Identifier of sources of information

One can immediatly identify the overlap in several of these roles. The most significant point that emerged was—'could we really expect an individual to have such superhuman attributes, all combined in one ?' Consequently the following four roles were identified ·

- Curriculum developer
- Researcher
- Facilitator of learning
- Community development worker

They were matched with the original twenty-nine again. The role perceptions may be lost if we interpret the above four in the routine traditional manner. In the final analysis, the following broad areas, listed as specific roles, were identified and an attempt was made to match the competences to each specific role in, of course, the context of science for all.

1 *Community Development Worker*

This requires a thorough understanding and appreciation of the community needs, requirements, problems and potential available for utilisation towards solutions. Further, it would be essential to have a thorough acquaintance with various developmental projects and activities being undertaken in the light of the national developmental needs and goals. Efforts in this direction can be initiated only after the teacher has acquired the necessary skills to establish sound human relationships with the community and can understand and analyse group dynamics. Information processing and its utilisation would be the basic competence to discharge the role effectively

2. *Motivator*

This role would be required to be played within the classroom and also outside the classroom, with pupils and so with the parents and the community. He will be required to plan, design and organise out-of-school activities within the school and outside. Community help would be needed here also

3. *Investigator*

While performing his role as a motivator and community development worker, the teacher would be required to depend on his competence to identify and locate the source of information. This would be necessary while trying to mobilise resources from within the community and also while trying to conduct out-of-school activities in the learning situations. Ability to identify real life situations, correlate them with other disciplines and, whenever necessary, analyse and interpret these would be an essential requirement. This ability would also help in processing the information in designing activities and in arriving at solutions.

4. *Learner*

This is one aspect which is always accepted by the majority of teachers, but unfortunately not practised by everyone in real life. Curiosity and willingness to put in some hard work, whenever necessary, to 'find out' would go a long way in helping teachers as learners. In today's fast changing society and information explosion, the significance of this role has enhanced itself to great proportions. Probably, this role would help in performing of all other roles.

5. *Interpreter of Technology*

As a learner, one of the major areas would be technical advances which are reaching the masses and the community, while it would be necessary to go into intricacies, the actual technical aspect. The utility part has to be understood and subsequently interpreted to society. A reasonable competence to understand technical drawings, constructing models and preparing charts may be of great help.

6. *Curriculum Developer*

During the curriculum transaction, emphasis would be on such activities which can be devised on the basis of local available resources. This would require the teacher to consistently play the role of curriculum developer. Not only this, whatever curriculum materials are available to him, should be critically examined by him and their utility ascertained in his work situations. He may have to adopt it, modify it and introduce such changes as may be required in his situations.

7. *Evaluator*

Familiarity with the changing trends and techniques of evaluation, would go a long way in effective functioning and curriculum transactions. He has to be closely familiar with the process, skills and attitudes, particularly in relation to science for all.

Having discussed the competence and subsequently the role of teachers, we find that most of these roles are of overlapping nature and the same is the case with the competency as has been identified. The next stage is to discuss strategies for developing desirable competency amongst the teachers and in equipping them to play their roles effectively. It would not be sufficient to concentrate on pre-service teachers education, but also to involve effectively the teachers who are already serving in schools. The requirement in both the situations would obviously be different and have to be examined thoroughly and separately

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Adult Second Language Learning : Krashen's Monitor Theory

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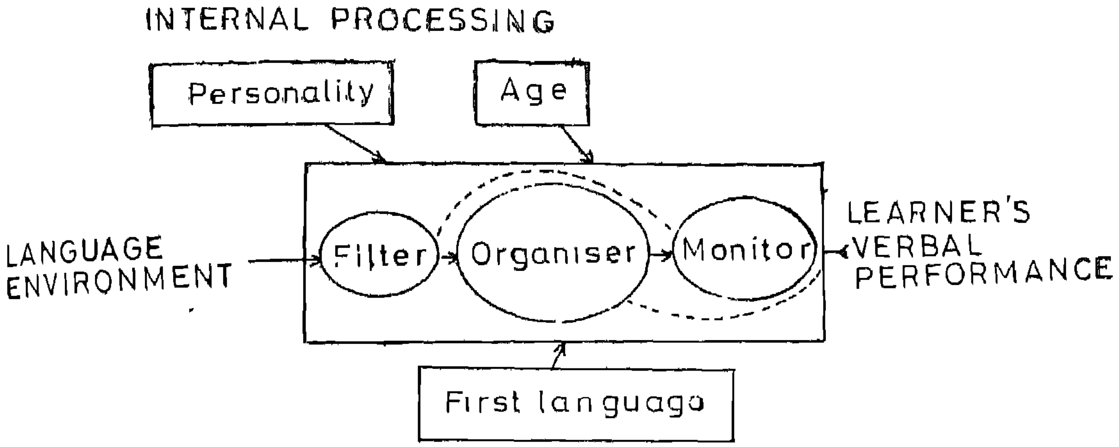
There could be no two opinions that for almost a decade now the Monitor Theory of Adult Second Language Learning enunciated by Stephen D Krashen has been not only the most talked about but also the most controversial theory of second language learning amongst applied linguists and language teachers. While Stevick (1980·270) hails the 'acquisition-learning hypothesis', one of the hypotheses of this theory, as "potentially the most fruitful concept for language teachers that has come out of the linguistic sciences" in recent years, Gregg (1984·94) argues that each of Krashen's five hypotheses "is marked by serious flaws: undefined or ill-defined terms, unmotivated constructs, lack of empirical content and thus of falsifiability, lack of explanatory power". He goes to the extent of saying that "it is indeed incoherent to the point that it seems inappropriate to apply the word 'theory' to it". The aim of this paper is to consider briefly the salient features of this theory and the criticism made against it with a view to arriving at a conclusion about this theory and its usefulness to teachers and research scholars in India.

This new theory of adult second language learning which is based on recent researches in the field is enunciated by Krashen in three recent books, (1) *Second Language Acquisition and Second Language Learning* (1981), (2) *Principles and Practice in Second Language Acquisition* (1982), and (3) *Language Two* (1982).

Krashen's Model

Krashen's model for second language acquisition first appeared in Burt, Dulay and Finocchiaro's *Viewpoints on English as a Second Language* (1977). It was put forward to account for individual differences in second language learning An updated version of this chart appeared in *Language Two* (1982:6) as under :



Working Model for Creative Construction in L2 Acquisition

Variable Factors

From the above model it will be seen that in between language environment (input) and learner's verbal performance (output) there are three internal and three external factors operating as people learn a second language. The three internal factors are (1) Filter, (2) Organiser, and (3) Monitor. Krashen argues that the former two operate "subconsciously" and the last one operates "consciously". He calls the former process of language learning "acquisition" and the latter "learning" The three external variable factors having a bearing on second language learning process are (1) personality and age, (2) first language, and (3) language environment.

According to Krashen (1981), the Monitor theory hypothesizes that adults have two independent systems for developing ability in second languages : (1) subconscious language acquisition, and (2) conscious language learning.

Krashen argues that out of the "input" the learner's "intake" is filtered by affective factors, such as motives, needs, attitudes, and emotional states. Under the "learning" process, this intake will be consciously processed by the Monitor bypassing the Organiser. Under the "acquisition" system, this intake will pass through the Organiser. The Organiser subconsciously organises the new language system and builds up the rule system of the target language, i.e. it is a creative construction process.

A brief discussion of the variable factors involved in this theory is given below :

1. Language Environment

Krashen argues that the function of the language environment is to provide "comprehensible input" at the appropriate level, i.e. just beyond the acquirer's current level of competence. It should involve natural communication, a meaningful interaction in the target language at the appropriate level. Krashen maintains that "language acquisition occurs only when comprehension of real messages occurs", and when the acquirer is not "on the defensive" (1982:6).

2. Affective Filter

According to the Monitor model, the first internal hurdles to second language learning are posed by the individual's emotional state and motivations.

Gardner and Lambert (1972) list two motivations, (1) integrative, and (2) instrumental.

Dulay, Burt and Krashen (1982) add one more to this list, viz. social group identification. Attitudinal factors "encourage intake", says Krashen (1981:21). Learners with social integrative motive would wish to participate in the social/cultural life of the target language speakers while retaining their identification with their own native language group. Learners with social group identification motive would want social and cultural participation, but they would also want to become members of that group, e.g immigrants or migrants who want to assimilate fully into the host society. Learners with 'instrumental' motivation desire to achieve proficiency in a language for purely utilitarian or practical reasons and will stop learning when this limited motive is achieved. Hence, the first two motivations, i.e (1) integrative, and (2) social group identification, predict a lower filter than the third one.

The above factors are affected by the external variable factors, 'personality and age' (Schumann, 1975), e.g. learner's self-confidence (lack of anxiety, high self-esteem, outgoing personality), empathy (ability to identify more easily with speakers of a target language), attitude (toward the classroom and teacher), and, to quote Krashen (1981:23-24), analytic orientation.

Krashen believes that language aptitudes, such as phonetic coding ability. grammatical sensitivity, and inductive ability mentioned by Carroll (1973), and language attitudes are related to only adult second language achievement but are not related to each other. His hypotheses are that (1) aptitudes may be directly related to conscious learning, and (2) language attitudes refer to the acquirer's orientation toward speakers of the target language as well as personality factors.

Attitudinal factors relate directly to acquisition (Stevick, 1976, 1980) and only indirectly to conscious learning and among the attitudinal factors may also be counted the learner's motivation for second language learning.

3. Organiser

The Organiser rationalises the systematic discrepancies which researchers have found between input and output These discrepancies which are characteristic of all sorts of second language learners are like imprints of the learner's mind on learning behaviour. They prove that the learner does not imitate words and phrases parrot-like but internalises the rules of the second language to which he is exposed. The Organiser is seen in three pervasive phenomena, viz (1) 'Interlanguage', the transitional constructions learners use before a structure is finally acquired, (2) the errors that systematically occur in the learner's performance, and (3) the common order in which structures are acquired. It shows that the learner is not a mere sponge to spill out what is fed into him but engages himself in a creative construction process and that there is a natural learning order which no amount of input or error correction can alter

4. Monitor

The fundamental claim of Krashen's theory is that conscious learning is available to the learner only as Monitor Monitor may be defined as the conscious grammer. It is claimed that individual second language learners vary in their achievement with respect to the extent to which they utilise the Monitor. According to Krashen, the performers on the Monitor continuum can be of three types : (1) Monitor over-users, (2) Monitor under-users, and (3) Optimum Monitor users. There are, according to him, three main constraints on the use of the Monitor, viz. (1) the performer must have time, (2) the performer must be focussed on 'form' or correctness, and (3) the performer knows the rule (1981:3).

Criticism of Monitor Theory

The 'acquisition-learning hypothesis' lauded by Stevick (op.cit.) has been questioned by many scholars and researchers. There is no controversy over the distinction between conscious and unconscious knowledge, or between conscious and unconscious mental processes. What is questioned is Krashen's assertion that 'learning' can never become 'acquisition'.

The acquisition-learning distinction which Krashen makes is not new. Corder (1967) and Lawler and Selinker (1971) also talk of this distinction. Language acquisition is very similar to the process children use in acquiring first and second language. All that it requires is the learner's exposure to "comprehensible input", i.e. meaningful interaction in the target language, in which the focus is not on the form but on the message. Acquisition takes place sub-consciously and is the result of the learner's creative construction process which leads the learner to internalise the rules of the target language sub-consciously (Ellis, 1982). Conscious language learning, on the other hand, involves presentation of explicit rules. Hence what is new in Krashen's theory is not the acquisition-learning distinction, but his claim that what contributes to communicative ability is only acquisition and not learning, a claim that, as Gregg (op.cit.) puts it, makes the hypothesis a bit inconsistent. If 'learning' cannot become 'acquisition', and if most of our knowledge of a second language is necessarily unconscious, then it makes little sense to call 'learning' one of the "two distinct and independent ways of developing competence in a second language" (Gregg, op.cit.). McDonough (1981) also comments on this confusion between acquisition and learning. Corder (1984:57) also disagrees that "learned knowledge has only an editing function" and declares that "the final objection to Krashen's theory is that he does not allow for learned knowledge to be converted into implicit knowledge". He observes that the assertion that memorization of routines and patterns does not convert itself into implicit or explicit knowledge is a "claim which is difficult to substantiate". "From the psychological point of view", says Wilga Rivers (1980.52), "it is difficult to distinguish between self-correction by 'feel' and self-correction by 'rule' in the sense in which Krashen uses these terms". To her it seems "highly improbable that acquisition and learning, as Krashen describes them, could be non-interactive, totally separate systems, seperate not only from each other but apparently from any previous learning". It is argued that Krashen's theory has tended to ignore psychological research which shows the way in which learners progress from conscious control at the beginning stages of learning to automatic behaviour later, despite claims of its relevance (McLaughlin, 1978 and Carroll, 1981). Sharwood Smith (1981:165) comes to the conclusion that from a pedagogical point of view "consciousness raising (Krashen's conscious learning) is not a time-wasting procedure". Gregg (op.cit.) argues that some rules can be 'acquired' through 'learning' and 'instantaneously' too, and without "a substantial quantity of input data" contrary to Krashen's belief McLaughlin (1978) and Gregg (op.cit.) both question Krashen's implicit claim that 'learning' is available only for use in production and not in comprehension.

Gregg (op.cit.) also questions the 'nature' of Krashen's Affective Filter. He raises two more questions with regard to the nature and function of this Filter. He wonders why the Filter does not work in children who also suffer from feelings of insecurity, anxiety, lack of confidence, etc. or if it does not exist in them then how does it suddenly manifest itself at around the age of puberty ? Gregg also points out the problem which the negative interpretation of the Filter (Krashen's Filter only filters) gives rise to. The Filter does not work both under ideal circumstances and under neutral motivation conditions. As far as motivation goes, ideal circumstances would mean the highest possible motivation to learn the language. He argues that

> That seems counter-intuitive to me, and it certainly seems to run counter to the standard interpretation of the motivation studies. The other possibility is equally undesirable—

> that the filter is completely 'down' under neutral motivation conditions, so that there is no difference in acquiring ability between the highly motivated and the merely not-motivated.
>
> (Gregg, op cit. : 93)

Krashen is also accused of faulty reasoning when he argues for 'caretaker speech' type input on one of the grounds that "it is syntactically simpler than adult-adult speech" since it has been shown (Newport, Gleitman, and Gleitman, 1977) that 'caretaker speech' (motherese) is not syntactically simpler than adult-adult speech.

Conclusion

If we sift all the criticism carefully, we see that the only objection in Krashen's theory is to his claim that 'learning' does not become 'acquisition' Corder (1984 : 58) expresses a balanced view when he says that "only acquisition-learning is the sticking point for many who otherwise accept his views". Gregg (op. cit) himself agrees that Krashen is "often right on the important questions". But Corder errs in concluding that "resistance here is based more upon emotion and tradition than rational argument". Teachers know that Krashen's claim is not borne out by experience and Brumfit rightly observes that Krashen's claim flies in the face of experience (1984 : 46).

We can modify Krashen's theory in the light of this criticism. The theory modified to this extent will still have the five hypotheses referred to by Gregg (op cit.) as under :

1 The acquisition-learning hypothesis
2 The comprehensible input hypothesis
3. The affective filter hypothesis
4. The natural order hypothesis
5. The monitor hypothesis

What is important now is to find out the pedagogical implications of these hypotheses for classroom language teaching. In other words, research scholars must study how these new insights will affect the role of the teacher and the role of the learner, classroom management, skills to be taught, methods and materials, and testing and evaluation procedures. They may also examine how the six variable factors can be influenced to make learning easy. It will also rewarding for us to examine how learner's knowledge of his first language can be exploited in teaching him a foreign/second language.

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Curriculum Development and Testing : Piagetian Approach

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PIAGET'S theory of genetic epistemology has been extended beyond its intended domain to deal with problems of education. At first many of these applications involved the direct teaching of the Piagetian concepts like conservation. An example is provided by Kohlberg and Mayer (1972) who believe that the very aim of education is the promotion of the Piagetian stages and that therefore the curriculum should focus on them. Subsequently, other applications have taken a different form, involving the use of general principles derived from Piaget's theory to guide educational practice. As Sinclair (1976) puts it :

> I am not sure that much can be done with applications of Piaget's theory in a detailed way by the Piagetian Psychologist....As you know there are absolutely no practical applications in the work of Piaget with respect to education. All one can do is to talk about some general principles, some hints and some cautions....Piaget has very little to say with respect to specific problems such as how to teach reading and writing, and various other educational techniques.

It is therefore necessary to limit oneself to consideration of general principles derived from Piaget.

In all attempts at applying a theory to practical concerns and at extending its principles from one domain to another, there may arise problems of legitimacy and validity. Can the principles discovered in one area be used to provide a valid justification of phenomena in another ? Is the application a legitimate one ? With respect to the extension of Piaget's theory to education, issues of various type need to be examined most closely for several reasons. One is that the applications have concrete effects on the lives of many children; we need to be sure that the interventions are helpful. Another is that the Piagetian approach to education has become something of a faddish movement; clear analysis of the issues is especially needed so as to avoid dogmatism.

The aim of this paper is therefore to achieve a clearer understanding of the relations between Piaget's theory and educational practice, especially the application in curriculum development and testing. The goals are to describe the theroy's contributions and limits, to identify misapplications of the theory, and to outline important educational issues which remain to be solved The Piagetian principles are of a general nature, can be misapplied, and are not easily extrapolated to the classroom context. And there is a more serious difficulty : the very nature of Piaget's theory has little to say about cultural knowledge, individual differences, the social context of education, and certain modes of learning prevalent in the classroom. This of course is no criticism of Piaget's theory itself Although it already deals with an incredibly wide range of phenomena, the theory cannot be expected to concern itself with everything. Given the limits, education requires innovative research going beyond Piaget's particular focus on genetic epistemology.

To develop these arguments, the paper shall review a number of commonly held propositions concerning the applications of Piaget's theory to curriculum development and testing.

Curricula

One major approach involves the derivation of curricula from the Piagetian theory. Kohlberg and Mayer (1972) propose essentially that school curricula can be derived directly from the Piagetian stages According to them, the aim of education is to promote the kind of development]described by Piaget. What better way to do this than to teach the Piagetian stages ? This approach is misguided for several reasons. First, in the vast majority of children, coming from different socio-economic strata, the pre-operational and concrete-operational stages develop in a spontaneous fashion, and therefore do not need to be taught Our view is that there is no clear evidence indicating the task of spontaneous development of formal operations in India. Second, it makes little sense to provide instruction in a topic like conservation since it is intended only as an index for tapping deeper thought structures. The training programmes may inculcate only the surface manifestations and not the underlying structure. As Sinclair (1971, p. 1) puts it: 'Piagets' tasks are like the core samples a geologist takes from a fertile area and from which he can infer the general structure of a fertile soil : but it is observed to hope that transplanting these samples to a field of non-fertile soil will make the whole area fertile. Third, the aims of education should not be limited to—and perhaps should not at all include – the promotion of the Piagetian thought structures Surely education must stress the transmission of cultural wisdom and basic social values.

It is therefore necessary to take a more modest approach in which one attempts to adjust particular curricular materials in line with the child's understanding as described by Piaget. Thus, if a Physics curriculum is to be introduced, it behoves the curriculum developer to take into account the child's informal knowedge of the subject and the related thought processes. A curriculum at least partially based on the psychology of the child is apt to be more effective than one which is not. On the other hand, there is some danger in this approach as well. One must not allow the Piagetian conception of thought in a given area fully to determine one's approach to it. For example, Piaget's view of scientific reasoning in adolescence places heavy stress on the hypothetico-deductive method. Although useful, that is not all there is to science. A curriculum based entirely on such an approach would ignore a good deal that characterizes the essence of scientific activity, for example, exploration, formation of hy-hypotheses by analogy and intuition. Obviously, future research should concentrate on expanding our knowledge of the child's spontaneous understanding of the various subject matter areas—Science, Mathematics, etc. The more we know about the child's informal reasoning in these areas, the better are we able to design effective curricula in them.

In brief, an attempt to base education on the teaching of the Piagetian stages is an unfortunate misapplication of the theory A more useful approach is the modification of the curriculum in line with knowledge of the Piagetian stages, without, however, placing undue emphasis on them and without allowing them to circumscribe one's approach. More research is needed on the nature of the child's informal knowledge of the various subject matter areas

Testing

There seem to have been two major approaches to applying Piaget's theory to the question of testing. One approach is to standardize the various Piagetian tests in order to be able to administer them to large numbers of children. The purpose of this is of course not to measure academic accomplishment—the achievement tests are intended for that—but to obtain a psychometrically reliable portrait of the child's cognitive structures, in Piagetian terms. This approach is misguided for two reasons. One is that it is not clear that knowledge of the Piagetian thought structures helps us a great deal in understanding the child's academic work. If one is going to test children in schools, it would seem more relevant to find out how they go about doing addition that whether they conserve number. A second reason is that even if one has an interest in measuring the Piagetian thought structures, standardized testing is an inferior method for assessing them. Piaget's clinical method is deliberately unstandardized since that is a superior way to explore the subtleties of the child's cognitive structure. The rationale for the clinical method (for an early account, see Piaget, 1929) is straightforward and sensible. Tapping the child's competence requires subtle and sensitive procedures, tailored to the peculiarities of each individual child. Pursuing the idiosyncracies of the child's solution processes requires flexibility in approach. The clinical method, used properly, accomplishes these purposes well, standardizing the procedure only serves to vitiate its power. Perhaps the major gain for standardization is a false sense of scientific respectability

A second application of Piaget to testing involves retaining both the clinical method and the Piagetian content as well Sometimes teachers are encouraged to use the clinical method as applied to problems like the conservation of number Such demonstrations may make an important impression on teachers, showing them that the child's thought can be distinctive. At the same time, the contribution of orthodox clinical interviewing is limited because of its failure to go beyond the Piagetian content, and to address itself directly to the teachers' concerns.

In brief, standardization of the Piagetian tests is not beneficial as it focuses too narrowly on the Piagetian phenomena and because it deliberately abandons the strengths of the clinical method. The demonstration of the Piagetian phenomena via the clinical method may be of some utility to teachers in illustrating the distinctiveness of the child's thought, but it does not speak directly to their needs. In education, we do not need more standard tests, nor even clinical interviews concerning the Piagetian subject matter. Instead we need to exploit the great advantages of the clinical method in order to engage in the direct exploration of children's academic knowledge. It may be helpful for teachers to appreciate children's distinctive reasoning on the conservation tasks; but it would be even more useful for them to observe, via the richness of the clinical method, the unusual patterns of reasoning displayed by young children as they grapple with ordinary school arithmatic. Future work on testing needs to explore the uses of the clinical interview procedure with respect to uncovering the structure of academic knowledge.

Conclusions

An effective contribution to education requires utilizing the Piagetian framework to go beyond Piaget. Such an approach requires, among other things, attempts to understand self-directed learning within the social context of the classroom and the ecological setting of the school in the larger society. It requires a direct focus on the structures of academic knowledge in particular and cultural knowledge in general. It requires the use of flexible methods to investigate cognitive structure of direct relevance to education. It is in these ways that we can begin to understand the education of the child.

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The Management of Studies

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FAILURES in life are more common than success. However, analysing and identifying the causes of failure may often lead to subsequent success.

With scientific approach to the process of learning and innovations in teaching and learning processes, the golden and time-tested rule "learn as much as you can, remember it, give it back on examination" still holds good.

Goal of Learning

Regretable though to the academic mind, the fact remains that examination is the final goal of learning.

It should be admitted that there is no short cut to learning. It is a process like the manufacturing of steel, construction of a multi-storey building, or the generation of electricity.

Efficiency of the "learning process" can be increased by systematic study and good reading habits

How to increase the efficiency of learning to cope up with the competitive age is the objective of this paper

Basic Make-up

There are some basic desired qualities, techniques and scientific approach in making a good student. These may be summed up as "good reading habits" Learning and knowledge can be acquired by observing scientific approach to the process of learning.

Late Sir Muhammad Zaferullah Khan gave the following advice to Prof. Abdus Salaam, the Nobel Laureate, while the Professor was only a school boy. Prof. Salaam quotes Sir Zaferullah Khan* ·

> "First, that I should look after my health, health was the basis of all achievements.

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*The Review of Religion. Vol LXXXI, No 2, Feb. 1986 p. 25

> Second, in respect of studies, he said that whatever lectures in the classroom were due for tomorrow, I should prepare the day before. And whatever I learned today revise the same day so that it became for ever part of me. Third, I should broaden my mind; in particular, whenever I got opportunity to make an educational journey—or even journey for pleasure—I should take it, for journey to new places was conducive to a broadening of one's range of interest".

This was the advice of one of the most eminent jurists to the then would-be Nobel Laureate. This guiding principle in the form of advice is true even today to the one who is keen for "Learning".

Learning Process

The very definition of learning is the "knowledge or skill acquired by study in any field". Thus, the process of learning is to gain knowledge or skill by study. Study is the key word in the whole process which comprises the following :

Components

—Reading, e.g. a book or a journal
—Writing, e.g. taking down notes, essay writing and solution to numerical problems, etc.
—Listening, e.g. lecture
—Speaking

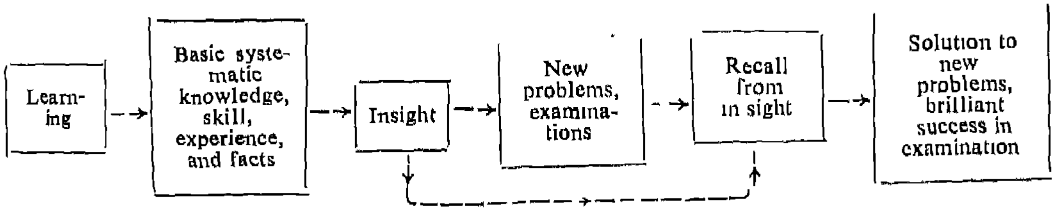
Aids

The aids to study are visual, audio, audio-visual, repetition, memory and library consultation. Radio, T.V. video films and mass communication media are a few but latest aids.

Insight

The basic systematic knowledge or skill acquired by study, experience and facts are stored in human memory known as "Insight", to "give it back on examination" or used for solving new problems. Thus :

Professional courses like engineering and medicine are representative of the above diagram.


Learning
Basic systematic knowledge, skill, experience, and facts
Insight
New problems, examinations
Recall from insight
Solution to new problems, brilliant success in examination

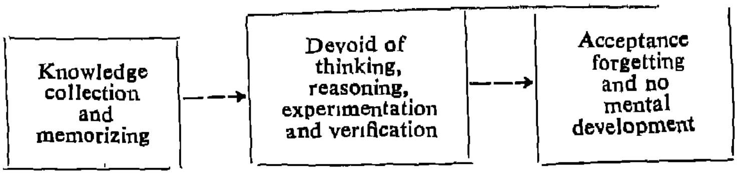
Conceptual Diagram—Solution to New Problems

Modes of Learning

The major functions of the human brain are (i) memory, and (ii) thinking. Based on these functions, there are two distinct approaches to the learning process.

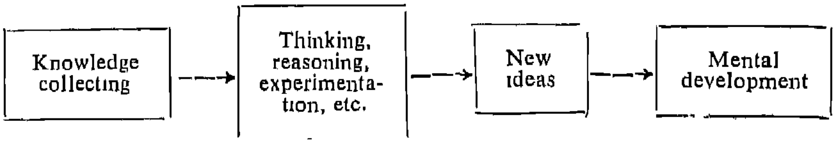
Approach I

Knowledge collection and memorizing devoid of thinking, reasoning, experimentation and verification. Thus :


Knowledge collection and memorizing
Devoid of thinking, reasoning, experimentation and verification
Acceptance forgetting and no mental development

Approach II

Knowledge collection, thinking, inquiry, experimentation and verification Thus :



Modern education by and large follows Approach I, except in a very few subjects like mathematics, science, engineering and medicine. Even these tend to be the Fact-Answer-oriented type.

Approach II is thinking-oriented and job-oriented as an end product. It creates new thinking, advancement of knowledge and spell-bound achievements in the frontiers of knowledge like space technology, engineering, medicine, electronics, etc.

The frontiers of knowledge during any age reached their perfection bit by bit by a combination of the collection of knowledge, the so-called 'memory' and 'thinking' or the so-called 'revolving the ideas in mind'.

The learning process is partly Approach I and partly Approach II, i.e. collecting knowledge, memorizing it and thinking, verification, experimentation, etc. Approach II should dominate Approach I in the process.

Thinking may sharpen memory also.

Memory combined with thinking plays a major role in the process of learning comprising of reading, writing and listening. People possessing 'extraordinary memory are said to have "Giant" memory. Computer is specified by its memory.

Simply stated, memory may be defined as a "system for receiving (input), retaining (storing) and transmitting information (Retrieving) about the meaning of words, concepts and classification of concepts". Thus :

The input could be reading, writing and listening.

Memory to a certain extent is flexible and can be increased or decreased. A few memory increasing factors are :

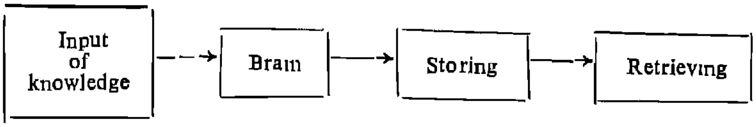
—Systematic, planned and good study habits.

—Written or oral repetition.

—Concentration.

—Association of ideas—with words, phrases or numbers.

Over-indulgence in games, extra-curricular activities and T.V. will have decreasing effects on the acquired basic facts and knowledge of the subject.



Coceptual Diagram of Memory

Study Management

Good study management which leads to brilliant success in examination is like a cricket team, with its members well practised and equipped with the technical knowhow of the game.

Study

The learning process in the form of "study" comprises of three components, namely—

—Management of classroom lectures.
—Management of personal study.
—Management of examination as the final goal

The 3Ws, i.e. why, what and where and one H, i e. how, should form the basis of study.

Classroom Management

The lectures delivered in the classroom are the foundation of the learning process. The basic rules to follow are :

—Be attentive in the class.
—Take down lecture notes.
—Rewrite, read, review and recite the lecture notes after the class, (known as 4 Rs).
—Sudsidize lecture notes with personal study.
—Note down the saliant features, catch-words and associate these with numbers, e.g five qualities of good bricks, four major components of a lathe machine, etc.
—Coin associative words or phrases to remember (e.g. AMU for Aligarh Muslim University).

The above technique is true of personal study management as well.

Personal Study Management

The basic rules to remember in personal study management are :

— Read : understand and reproduce the same either orally or in writing.
— Recite : repeate a prepared lesson.
— Review : go over again either orally or in writing once every day, once a week, once a month and finally at the time of examination.

Points to Follow

1. Select one or two good books on the subject.

2. Glance through the old examination question papers and questions at the end of each chapter of the books and tutorial sheets, if any. Try to formulate your own questions on a particular topic—thus preparing your own question bank

3. Discuss the evaluation system with some old student or the teacher.

4. While going through class notes with the aid of the books, note carefully the contents of each paragraph. Note the catch words.

5. Recollect once in a while what you have read.

6. Have a short study period followed by a short period of rest. These periods should neither be too short nor too long.

7. Practice derivation of mathematical formulas.

8. Personally solve numerical examples.

9. Study piece by piece and part by part.

The above points are applicable, with some modifications, to written examinations of any nature for good performance as well.

Examinations

Examinations are the final goal of learning. They create nervousness and examination fever. The remedy is systematic study. However, the examinations of importance to students are :

— Entrance : Key to enter engineering, medical or any other profession or course.
— College or University examination : Common to all courses.
— General Aptitude Test in Engineering (GATE) : For those who aspire for higher engineering education in India.
— Test of English as a foreign language (TOEFL) : For those who aspire for higher education abroad.
— Graduate Record in Engineering (GRE) : For those who aspire for higher engineering education in the USA or abroad.

Trends

In the totality of the domain of educational system much has been said and written about examinations and examination reforms Equally important, if not more, are other aspects, e.g teaching methodology and learning process which deserve at least equal attention and emphasis.

The knowledge of the trends in examinations would be of interest in better performance in examinations which is the goal of the learning process, anyway

In modern age "certainty principle", i.e pre-determined short answer to a set of questions and "measurement principle", i.e. measuring and assigning a value, seem to dominate the educational system.

Types

Broadly speaking, examinations are :

- — Written : objective type, multiple choice, matching type, essay type, etc.
- — Oral or viva-voce or interview.
- — Practical.

Written Examinations: Of late, written examinations tend to be different from the past. They

- — tend to deviate from the traditional form of questions to the more purposeful type ;
- — tend to test the higher ability of the candidates rather than mere memory ,
- — tend to cover the entire syllabus to
- — discourage selective study ;
- — tend to restrict the choice from within the portion of the syllabus in the form of "either", "or",
- — tend to test the writing ability and comprehension of the candidates.

There are great variations in the written examination system, ranging from the objective type to the essay type. Each is supposed to be designed to test a particular ability of the candidate. By and large they are "fact-answer" oriented.

Plan of action and preparation for each type of examination depend upon the nature of the examination. But the guiding principle remains "preparation and learning".

Guidelines : Some broad guidelines for each type are given below ·

1. Objective type : attempt as many questions as possible Do not concentrate and lose too much time on questions you cannot quickly answer.
2. Essay type It is the test of your ability to understand, think, recall, write, review and ability to organize.

Therefore :

(a) Read instructions, questions and distribution of marks carefully.
(b) Begin with the question you know best.
(c) Organize your ideas and sequence of thoughts into headings and sub-headings. Underline the same or use a different colour of ink or pencil. This will depend upon your study management throughout the year.
(d) Be precise and relevant. Write neatly and draw neat sketches to illustrate your point
(e) The length of the answer and its relevance will depend upon the mark distribution.

3. Mathematical type . Most of engineering and science examinations tend to be mathematical. Solutions to such problems in examination need prior preparation and special efforts such as :

(a) Solve numerical examples independently from the book and the tutorial sheets.
(b) Review the answers and check the calculations.
(c) Formulae and mathematical equations need special efforts to remember and "give it back on examination".

Oral Examinations : Oral examination, interview or viva-voce is an integral part of the evaluation system. Like written examinations, they need prior preparation, group discussions and mock interviews. The objects of the test are :

(a) To test expression (words, idioms, delivery).
(b) To test the subject, its basic concepts, equations and formulae.
(c) To test personality and manners.

Guidelines : The following are the guidelines :

(a) Dress, sitting and speaking postures, speak in relaxed mood.
(b) Do not feel nervous and tongue-tied.
(c) Be confident and clear in speaking, thought and ideas.
(d) Do not use "telegraphic" language. Do not reply in 'Yes' or 'No' to a question. Answer in complete sentences.
(e) Try to induce the interview board to the topic which you know best.
(f) Express ignorance of the topic you do not know.

Practical Examinations : Practical examinations are an important exercise in engineering, science and medical studies. The abilities to be tested in these examinations are :

(a) Organization, cooperation and division of labour.
(b) Leadership
(c) Understanding of the theory and command at the manipulation of instruments.
(d) Calculation.
(e) Report writing, including diagrams and sketches.
(f) Presentation and interpretation of observations in graphical or tabulated form.
(g) Conclusions.

Guidelines : Practical examinations ending in the form of reports, are the transmission of technical ideas to those who may or may not be of comparable technical training.

Practical examinations are generally followed by report writing which is an art. Observe the following :

(a) Layout of the report.
(b) Observations in the form of numerical data.
(c) Data analysis and curve fitting and graph plotting.
(d) Conclusion and recommendations.

Follow the instruction sheets. Good reading habits, systematic study and practice and attention in laboratory throughout the year are some of the rules to be followed

Library and Care of Books

Books, periodicals and journals constitute an important and integral part of a library. They need tender care even though they do not belong to the user. The following are some of the points for their proper use and care :

— Do not bend or fold or mutilate books. The users should learn to respect books.
— Do not use pencil or measuring scales as markers. Use only markers and do not fold the page as marker.
— Do not underline the text of a book. Even putting pencil marks and ink marks be avoided.
— Exercise proper care in the use of books issued by a library or book bank.
— Return the book back in its proper place on the shelf after use.

Classification

Classification and cataloguing are the twin processes which help in the location of a desire document in a library. There are about six accepted classification systems. Among these, Dewey's decimal system is extensively used all over the world.

The Dewey system, introduced in 1876 with a small booklet, has now grown into a universally accepted giant system. It divided the entire field of knowledge into ten main classes These are :

0	000	General works
1	100	Philosophy
2	200	Religion
3	300	Social Sciences
4	400	Linguistics
5	500	Pure Science
6	600	Applied Science
7	700	Arts and Recreation
8	800	Literature
9	900	History, Travel and Biography

Main Fields of Knowledge

(According to the Dewey System)

Further divisions of knowledge under Applied Sciences (600) are :

0	600	Applied Sciences
1	610	Medical Sciences
2	620	Engineering
3	630	Agriculture
4	640	Home Economics
5	650	Business and Business Methods
6	660	Chemical Technology
7	670	Manufacturing
8	680	Manufacturing
9	690	Building

Further Divisions under the main classes of Engineering (620) are as follows :

0	620	Engineering
1	621	Applied Physics (Mech. Engg.)
2	622	Mining Engg.
3	623	Military and Naval Engg.

4	5	6
624	625	626
Civil Engg	Rail, Road and Highway Engg.	Unassigned
7	8	9
627	628	629
Hydraulic Engg. and Construction Work	Sanitary and Municipal Engg.	Other Engg

The following numbers of conventional courses in Engineering, according to the Dewey system, are of relevance to engineering students:

— Mechanical Engineering	621.0
— Electrical Engineering	621.3
— Civil Engineering	624.0
— Chemical Engineering	660.2

Catalogue

Catalogue is the key to unlock the contents of the universe of knowledge. Library catalogues are in the form of cards.

For finding a book, the basic information available with the user should be either:

- the name of the author, or
- the title of the book, or
- the subject.

To locate a desired document, with either of the above types of information, reference is made according to:

- author card, or
- title card, or
- subject card, or
- cross reference and or "see" and "also see" cards

When in difficulty, refer to the staff of the library.

Plan of Action

1. Acquire good and systematic reading, writing, listening and speaking habits.
2. Cut down extra-curricular activities to the minimum, retaining some kind of recreation activity only.
3. Increase power of retention, recite, review and write.
4. Observe study management, i.e. planned studies and constant practice and attention both in classroom and at personal study.
5. Organize the reading material into heads and sub-heads at the time of examinations—written, oral and practical.
6. Prepare brief notes of the notes, formulae and points on pieces of paper or cards. Go through these over and over again at leisure hours

Conclusions

1. Examination is the final goal of learning.
2. There is no short-cut to learning.
3. Systematic study and good reading habits can increase the efficiency of the learning process.
4. Examination preparation should be in accordance with the latest trends in the examination system.
5. Memory is flexible and plays an important role in the learning process in the present-day educational system

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Education in Values

(Dr.) R.C. Das

Of late, a concern has been expressed by Government as well as the public that there has been erosion of values in our society and there is a need for education in values in our schools and colleges. Mahatma Gandhi's teachings of truth and non-violence have not taken root in the conduct of our people. On the other hand, corruption and violence are more rampant. Narrow communal and linguistic considerations are given greater value in our conduct than national interests. Values—secularism, socialism and democracy—enshrined in our constitution are more often violated than practised. Some people think that education is responsible for this state of society, because moral education is not taught in our schools. We are now being asked to adopt some scheme of education not only in universal human values (common to all religions) but also in the social and political values enshrined in our constitution.

Concept of Values

The great majority of professional educators believe that our values come from our experiences. Both White-head and Dewey have said that the quality of an experience is to be judged by the thinking that has been involved in it, the connections that have been made between the immediate experience and our existence, past, present and future. Dewey indicates that his concept of values includes:

> "1. The idea of prizing, cherishing and holding dear.
>
> 2 The idea of reflection and making connections between the factors of the situation in one's existence to the end that intelligence is employed and that improved judgment is concluded.
>
> 3 The idea that action in support of an approved value will be taken."

Thus in order to make a value judgment, one considers all facts in a situation, thinks of possible alternative courses of action and possible consequences of each alternative and on the basis of some criteria developed by the individual decides which alternative action he would take. The criteria indicate what he prizes most, or what are his values.

The traditional approach to value education has been to instil, inculcate or develop in the child a given set of values These values may be the values stated by religion or, in a secular society, those determined by the state. These values are incorporated in textbooks, through stories, poems or directly mentioning them in the discussion of curricular topics. Sometimes moral stories are taught in the scheduled periods of a school time-table Other methods prevalent are organising activities and observing and guiding development of good habits and good conduct. In all these methods, a set of pre-determined values is sought to be developed in the children Many educators think that this is nothing but indoctrination of values and that in a free society, education has no right to indoctrinate values. Further, research indicates that these methods of teaching values through textbooks or other instructional materials or through forced regulation of behaviour, does not generate these values in the children, i.e. when they have choice and freedom, they may not choose the behaviour/action determined by the indoctrinated values.

Aims of Moral Education

Moral values are a specific category of values which are based on the concept of justice. The aims of moral education have been well stated by W.K. Frankena .

> "1. to cultivate a grasp of 'the moral point of view' or the moral way of judging actions and deciding what one should do as distinguished from, say, the aesthetic, legal or prudential point of view,
> 2. to foster a belief in or an adoption of one or more fundamental general principles, ideals or values as a final basis for moral judgment and decisions,
> 3. to foster a belief in or an adoption of a number of concrete norms, values or virtues, such as were mentioned in connection with the old moral education,
> 4 to develop a disposition to do what is morally right or good, and
> 5. to promote the achievement of reflective autonomy, self government, or spiritual freedom, even if this leads the individual to criticize prevailing ideals, principles or rules."

The first three objectives were the objectives of old moral education which tried to develop a set of pre-determined norms of behaviour. The last two objectives are the objectives of modern moral education which does not believe in indoctrination of values but aims to develop autonomous moral judgment based on self-developed moral principles.

Stages of Moral Development

Piaget and later Kohlberg have done a lot of research in the development of moral judgment and found that there are distinct sequential stages of moral development. Piaget found four stages of development of moral judgment as follows :

1. The Ego-centric Stage—His judgment at this stage is only in so far as it gives pleasure or pain to him (or his body). At this stage, the child conforms to authority, if, otherwise, it feels it will get hurt.
2. The Authoritarian Stage—At this stage moral judgment is in terms of obedience to authority, parents, teachers, etc. All moral judgments are now made in relation to the view that rules are virtually unbreakable. Obedience is taken as a value.
3. The Reciprocal Stage—Rules are now accepted because they emerge as the expression of reciprocity amongst social equals. An action is now deemed to be good, if it is socially fair, and bad, if it is socially unfair.
4. The Stage of Equity—When reciprocity is informed by altruistic concern (concern for others) it issues in equity. This is not a legal relationship based on consideration of justice and equity but a human and moral relationship based on concern and compassion.

In 1970, Kohlberg [4] did an extended study of how children and adolescents make moral judgments and found similar stages of development. He classified them into three levels—pre-conventional level, conventional level and post-conventionl, and autonomous level which broadly correspond to Piaget's authoritarian, reciprocal and equity stages, respectively. Kohlberg, however, divided each level into two stages and thus obtained six stages of development of moral judgment. These are as follows :

1 Pre-conventional Level

Stage 1—Punishment and Obedience Orientation · Avoidance of punishment and unquestioning deference to power are valued in their own right.

Stage 2 — Instrumental Relativistic Orientation : Right action consists of that which instrumentally satisfies one's own needs and occasionally needs of others.

2. Conventional Level

Stage 3—Inter-personal Concordance Orientation : Good behaviour is that which pleases or helps others and is approved by them.

Stage 4—'Law and Order' orientation There is orientation towards authority, fixed rules, and maintenance of the social order.

3. Post-conventional or Autonomous Level

Stage 5—Social Contract Legalistic Orientation : Right action lends to be defined in terms of general individual rights and in terms of standards which have been critically examined and agreed upon by the whole society.

Stage 6—Universal Ethical Principles Orientation . Right is defined by the decision of conscience in accord with self-chosen ethical principles appealing to logical comprehensiveness, universality and consistency. These principles are abstract and ethical.

Kohlberg has found that these are sequential stages of moral development which occur naturally and universally in all individuals, although development in some individuals may stop at any level. He found that the stages are sequential, that is, development to a stage cannot be reached unless the previous stages have been attained. Further, he found that "even when stage 4 has been attained, an individual cannot be taught principles of stage 5 directly, but must largely generate them himself by reorganizing his thinking after experiences of conflict".

"A series of studies by Blatt and Kohlberg indicate that more restricted educational efforts to stimulate moral development can also have a significant effect on children. In one study, a class of ten sixth graders met once a week for three months to discuss moral dilemmas A majority of the students in the class moved ahead almost one full stage, which is a substantial change for that period of time. Furthermore, those who had advanced after the 12 weeks, remained advanced one year later".

Kohlberg's a approach to moral education is called cognitive development of moral judgment First, he recommends giving a test of moral judgment to determine the stage of development at which each pupil functions. The pupil is asked to react to hypothetical moral dilemmas and his replies are analysed to see to which stage of moral development they belong. The education programme consists of small group discussions of moral dilemmas. As the groups discuss, the teacher suggests moral reasoning one stage higher than that of the pupils. The teacher's opinion is neither stressed nor invoked as authoritative. The notion that some judgments are more adequate than others is communicated. Kohlberg and his associates found that such discussions of moral dilemmas accelerate moral development to the next higher stage. Since the stages are sequential, it is necessary that discussions should aim at advancing the pupils to the next higher stage than the stage at which they are at any time.

"An experiment by Turiel indicated that when the child absorbs thinking one stage above his own he is not simply passively learning and that upward change depends upon exposure to conflicting points of view or alternatives and subsequent reorganization. Exposure to preaching of the next stage up without arousal of conflicts and uncertainty will not cause upward change"

Kohlberg admits however that development of moral judgment is only one aspect of moral character So he recommends that "in addition to stimulating development of general moral judgment capacities, a developmental moral education would stimulate the child's application of his own moral judgments (not the teacher's to his actions". As Kohlberg states, "the attractiveness of defining the goal of moral education as the stimulation of development rather than as the teaching of fixed virtues is that the child is helped to take the next step in a direction towards which he is already tending, rather than having an alien pattern imposed upon him".

Loughran studied moral judgment of adolescents. "He found that nearly two-thirds of his adolescents made moral judgments based on equity; secondly, that objective thinking, i.e. considerations of authority and equality were not confined to childhood. Three further very important conclusions emerged. Prejudice was correlated with poor moral judgment. Children with high personality ratings as assessed by IPAT tests made better moral judgments". There was no difference in the moral judgment of both sexes. Lerner and Barkley have found sharp social class differences in moral judgment. Children from high status homes tend to display a much more mature form of moral judgment than children from low status homes.

Recently (1985) Andre Schlaefli and associates made a meta-analysis of 55 research studies of educational interventions designed to stimulate development in moral judgment. All these studies used the Defining Issues Test. The studies were conducted in different countries. Various subject groups were involved (junior and senior high school students, college and graduate students and adults). Various types of programmes were employed (group discussion of moral dilemmas, psychological development programmes, social studies and humanities courses), and the duration of the programmes varied (a few hours to a year long programme) The major conclusions of the meta-analysis are:

"1. Moral education programmes emphasizing dilemma discussion and those emphasizing personality development both produce modest but definite effects with the dilemma discussion method having a slight edge.

2 Academic courses in the humanities and social studies do not seem to have an impact on moral judgment development.

3. Programmes with adults (24 years and older) seem to produce larger effect sizes than programmes for younger subjects; however several artifactual explanations may account for this trend.

4. Effect size is related to exposure to Kohlberg's theory Whether this is test contamination or true developmental change needs to be determined.

5. Interventions longer than 12 weeks have no more impact than interventions of 3 to 12 weeks; however, duration less than three weeks tends to be ineffective when measuring moral judgment by the DIT."

These studies show that education in values through the curriculum is least effective. Earlier studies have also yielded similar results. Two kinds of approach appear to be more promising · one is based on Kohlberg's theory and uses discussion of moral dilemmas and the other uses personality development approach.

Earlier, Piaget in his studies on moral development had found that the following moral attitudes are developed : (1) Responsibility, (2) Altruism (3) Rationality, and (4) Autonomy. These attitudes are associated with the different stages of moral development. So if appropriate learning experiences are given to stimulate development of these attitudes, moral development will also be accelerated.

Kohlberg is not in favour of development of values other than moral values, for two reasons : "First, it is not clear that the whole realm of personal, political and religious values is a realm which is non-relative, i.e in which there are universals and direction of development. Second, it is not clear that the public school has a right or a mandate to develop values in general"

However, other educators argue that so long as the school is not imposing any set of values but stimulating and clarifying the values, this falls within the functions of the school. There are several approaches used for value clarification and value awareness. However, in all these approaches, pupils discuss, preferably in small groups, hypothetical situations in which values conflict.

A theory and a set of classroom techniques in value clarification have been developed by Sidney Simon, Merrill Harmin and Louis Raths. The theorists believe that when students are faced with conflicting sets of values, an individual value crisis may occur which could produce confusion, apathy, hostility or other negative results which are destructive to personal growth and the teaching-learning process. The basic theory focusses on seven processes of helping students towards developing and clarifying their own values. These seven processes are "choosing freely, choosing from alternatives, choosing after consideration of the consequences, prizing one's choice, publicly affirming these choices, acting on choices and incorporating these choices into a pattern of life. Classroom techniques for clarifying values have been developed to help students learn and use one or more of these seven processes"

J.R Fraenkel has described a classroom technique which is called "Analyzing value conflict". A value dilemma is presented to students. A value dilemma is a situation, argument or illustration in which one or more individuals are faced with a choice (this is essential) between two or more conflicting alternatives, each of which is desirable to some degree Then the following steps are taken :

"Clarify what the value conflict is about, then,
Ask for facts.
Ask for conceivable alternatives,
Ask for possible consequences of each alternative.
Ask for evidence to support the likelihood of each consequence occurring
Ask for an evaluation of desirability of likely consequences.
Ask for a judgment as to which alternative seems best and why."

While evaluating the desirability of likely consequences, we should make sure that students understand the concept of criteria. A criterion is a characteristic or a set of characteristics which make a consequence (or any thing else) desirable or undesirable (or somewhere in between) to some one. Criteria are essential for intelligent reasoned ranking. Students should be exposed to various criteria such as—

Moral criterion (to what extent the lives and dignity of human beings be enhanced or diminished)
Legal criterion (would any laws be broken?)
Aesthetic criterion (would the beauty of something be increased or reduced ?)
Ecological criterion (would the natural environment be harmed or helped ?)
Economic criterion (how much cost would be involved ? Are sufficient funds available to pay ?)
Health and safety criterion (would the lives of human beings be endangered in any way ?)

Students should be asked to make their own judgments after ranking the consequences, using their own criteria. During discussion, they should explain how they arrived at their judgments. They will also hear how other students have arrived at judgments. This will enable them to compare their judgments with those of others and to make changes in their criteria if they think necessary In this way, they learn to clarify their own values and learn a method of resolving value conflicts.

In brief, the present state of research supports the view that there are universal stages of moral development and that a developmental approach to moral education appears to be effective in bringing about accelerated growth in moral judgment. At the same time, in the modern world, man is continuously facing conflicts of values It, therefore, appears proper to say that education has a role in enabling the child to make value judgments. In doing so, he should develop his own criteria, with the help of which he can evaluate the consequences of any action that may be taken in a value dilemma. Both Kohlberg's cognitive development of moral values as well as Raths' value clarification approach may be adopted as useful techniques of education in values.

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Educating College Teachers

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EVEN those who believe in the concept of born teachers cannot dispute the fact that such teachers are not in majority. In this age of growing educational unemployment, it is quite difficult to get the job of one's choice. As a matter of fact, some people are misfit for their jobs, yet they have to continue. But in most of the vocations, the selected ones have to undergo some sort of training, before they are assigned responsible positions. Our university or college teachers have to teach straightaway, without ever realising the delicacy of their profession. However, a good number of teachers tumble into the teaching profession, after failing to get the the job of their liking. How are these teachers prepared mentally ? Is it not surprising that university or college teachers are hardly conscious enough of this crucial problem ? But the bulk of our junior lecturers are not born teachers. They are not even profound scholars.

M. Phil. or Ph D can by no means make one a good teacher, for these are mere extension of their regular studies. A lecturer even after procuring the said degrees remains ignorant in the art and science of teaching. Hence the hypothesis that the teachers are born, not made, may be rejected.

The Basis

The minimum requirement for the position of a lecturer is B+, according to the norms laid down by the University Grants Commission. How many teacher candidates are able to complete M.Phil or Ph D before they seek an appointment ? The mounting pressure of the number of students in the university departments and colleges has resulted in overcrowded classrooms. In a big college, it is difficult to distinguish a teacher and a taught. A good number of junior lecturers have no time to make themselves thorough in their subjects. Rightly observes the "Challenge of Education Document": 'Universities and colleges are becoming notorious for rampant casteism, regionalism and in-breeding. These institutions, barring a few honourable exceptions, have become virtual battlefields, in which political and other factors, backed by teachers and aided by other staff, often fight pitched battles for power and supremacy'. It can be safely assumed that in such a vicious environment, the beginners (lecturers) hardly command any respect from their students Experience confirms that within a few years after obtaining doubtful, dubious and sub-standard Ph D, they find themselves as Heads of the Department, in a college or in an university. Moreover, sometimes post-graduates who are hardly 23 to 25, become full-fledged lecturers, teach classes right from pre-university (as in Rajasthan) to the post-graduate level

Teacher's Role

To-day, the role of a teacher is being viewed as a facilitator of learning or creator of learning environment Now his role as a disseminator of information is being questioned in the light of the modern pedagogical and andiogogical theories Now, the 'scientific analysis of teaching and systematic procedures for the development of analysed components by training have elevated our expectations for more effective college and university teachers in the class-rooms'. The only method of teaching employed by the teachers is the lecture which usually remains drab, dull and lifeless. They are hardly able to infuse life in the classroom situations.

Moreover, knowing the subject matter and communicating it effectively for better learning are two independent but altogether different skills. Due to the non-exposure to the effective teaching methods and other significant aspects of teaching to the lecturers, they are being subjected to stiff criticism by students and parents. Their ability as effective teachers is being questioned and is often a matter of debate. Naturally, students do not relish their lectures and remain stagnant in the classrooms. They prefer to quit such classes in order to roam about aimlessly

Again, how many lecturers are able to organise seminars ? Do they dare to indulge in a discussion method ? Do they know the technique and handling of audio-visual aids ? How many lecturers are able to organise tutorials effectively ? How many of them can organise symposiums on some controversial topics ? Quite a good number of lecturers remain confronted with various problems, i.e. class management, student indiscipline, ensuring students' participation in learning and assessing objectively the examination answer-books.

Resistance

To talk about teacher training or a study of theory and practice of education is most unpopular with our college lecturers, readers and professors. Often they frown, jeer and mock at a trained teacher. To them, to be trained is below their dignity. The arguments put forward by them are :

1. College or university teachers are assumed to be of greater ability, hence, teaching craft will not add much to their practical efficiency.
2. College lecturers are not prepared to be exposed to the fads and frills of teacher training.
3. Some hold the view that like born poets, college lecturers are born teachers.
4. A college lecturer has to work with mature minds, unlike secondary school teachers.
5. The university or an academic college itself provides a greater in-service education.

Some Experiments

A four-week experiment was conducted for the newly appointed lecturers of the Andhra University. Forty-eight out of fifty-eight newly appointed lecturers participated in a training which itself was divided into four broad categories :

a. Objectives of Higher Education

b. Role and Responsibilities of Teachers.
c. Methods and Techniques of Teaching.
d. Education and Assessment Techniques.

It was assumed that a pre-programme demonstration and a post-programme demonstration by the teachers would indicate the change in the teaching skill of the participating lecturers. Twelve experts from the faculties of psychology, education and relevant fields participated in the programme as external resource persons.

Twenty-eight senior professors from the three colleges of the university gave lectures and demonstrations during the four-week programme. The best teachers on the campus were used as model lessons for the participants. Teaching practice of about ten minutes to test communication ability and mode of presentation was made compulsory for all the participants. A small test was conducted on the participants to find out type of teaching norms they preferred. On the basis of the results, the teachers were broadly divided into :

a. Structuralists.
b Functionalists.
c Behaviourists.
d. Humanists.

It was found that junior teachers are functionalists and humanists.

Some of the conclusions of the above experiment are ·

1. Most of the lecturers were found to be interested in learning verbal communication skills rather than exposition of the content.
2. No single method of teaching is universally accepted, not the least the lecture method.
3. Junior lecturers do have some initial difficulties in the teaching process and a training programme of the present type is therefore essential.
4. Teaching facilities like audio-visual aids and project facilities are essential for improvement in the quality of teaching.
5 No single traffic method of presenting information to students without involving them actually in the learning process should be discouraged.

SVC National Police Academy. Hyderabad, conducts courses for the training of trainers for different ranks of police personnel. The officers are made acquainted with the philosophical, sociological and psychological foundations of education. They are also trained in using various teaching and training methods, audiovisual instructions, curriculum planning, evaluation techniques and interpersonal skills for running a training institution effectively.

Some of our technical training institutions, i.e engineering colleges, provide courses for lecturers, readers and professors. The National Academy for Agricultural Research, Hyderabad, provide some courses on technology for the deans

Educating College Teachers

The Kothari Commission (1964-66) made the following vital recommendations for pre-service and in-service training of junior college lecturers :

1. Pre-selection of new teachers for about a year for orientation towards their chosen profession.
2. Post-graduate students, after their first year, may be given some experience of teaching at the under-graduate stage.
3. Senior colleges to organise development of teaching methods, orientation courses for a few weeks for junior lecturers.
4. Interchange of visits to classrooms through demonstration, individual conferences, group discussions.
5. To study the methods of teaching and the ways of handling the subjects.
6. Staff colleges in bigger universities or in group universities should provide

in-service training programmes for junior lecturers

In the light of the above recommendations, teacher training should create a sense of confidence in the teachers while they are engaged in the process of teaching. It should provide them a reasonable understanding of the educational objectives and purposes It should also provide a proper place of their special subjects in the curriculum with an interdisciplinary approach. The training should highlight new methods and techniques of teaching-learning with an adequate knowledge of psychology on which good teaching ought to be based. The nature and design of the courses along with the methods of teaching should be determined

The Courses

The nature of the courses and the methods to be employed should be on the basis of theory and practice of teaching.

a. Theory should include ·
   1. Psychology of adolescence and of learning
   2. Techniques of teaching and learning at the college level and knowledge of group dynamics
   3. Educational evaluation in collaboration with the examination reform cells in the universities.
   4. Education of the gifted and backward students
   5. Guidance counselling with the latest developments in foreign countries.
   6. Current issues and trends in Indian education in world perspective.
   7. Methods of research.
   8. Techniques of conducting tutorials, seminars, workshops, symposiums.
   9. Awareness of professional ethics and human relationship.

b. Practical aspect should be ·
   1 Handling of audio-visual aids.
   2. Developing effective exposition-practical use of Vedio, TV and Radio.
   3. Techniques of note-taking and note-making.
   4. Methods to develop fast reading.
   5. Setting better or objective type questions from the examination point of view
   6. Preparation of case studies of gifted and backward students.
   7. Use of elementary statistics.

Some Suggestions

1. A course for educating teachers must reflect the proposed aims of training. It should provide a variety of learning experiences The course can comprise a conceptual framework. It should be a balanced one It should be designed duly keeping in view the theories of learning and instruction. Evaluation will be an integral and continuous part of instruction.

2 Some courses may be started at the departmental level by employing faculty members from the Departments of Education. Well-known trainers (engaged in training) should be invited to co-ordinate and assist faculty members, in collaboration with renowed colleges of education.

3. Courses may be conducted in the universities for the benefit of their teachers. Courses on 'Andragogy' teaching methods and skills, audio-visual instruction, curriculum research methodology, management learning and vocational guidance may be for small duration.

4. Long-term courses need not exceed the duration of 45 days or so. The UGC should organise such courses on the regional basis. Lecturers selected for these courses may be assigned normal teaching work after they complete the courses successfully.

5. No single method of teaching should be accepted, the least should be the lecture

method. No single traffic method of presenting information to the students without involving them actually in the learning process should be discouraged

6 Finally, in order to organise courses, standard journals, i.e. Training and Development, Teacher Education, Indian Educational Review, Journal of Higher Education, will prove beneficial. In fact, new material for training of teachers should be developed according to the needs.

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Attitude of Students Toward their Teachers in Public and Non-Public Schools of Uttar Pradesh : A Comparative Study

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EVER-INCREASING agitations and disruptions of normal functioning institutions are often traced to the teacher-taught relations. School teachers exercise tremendous influence on the over-all personality development of their students. Hurlock (1951) rightly contends that "It is sometimes a shock to teachers to realize how much their students are concerned with what they do, say, read, wear, enjoy and their manner and behaviour generally".

Thus it is imperative that the attitude of students towards their teachers must be empirically assessed

Numerous studies (Wickman, 1937 , Jersild, 1941 ; Tschechtelin, 1940; Bush, 1951) have been conducted to gauge the attitude of students towards their teachers. Wickman (1937) emphasised the study of the attitude of the teacher towards the student rather than studying the attitude of the students toward the various factors of the classroom and the pedagogical procedure of the teacher. Johnson, (1974) found that the most ideal teacher-student relationship was heavily weighted with positive communication statements. But a systematic approach towards such a vital problem has eluded the attention of educationists in our country. Also, the organisational aspect of the school has not been considered. More precisely, research investigations have not been extended to cover the perceptions of the characteristics of teachers in Public and Non-Public schools. These two types of schools markedly differ in organisational as well as functional aspects.

Bryan (1935) and Bush (1951) highlighted 20 characteristics of teachers but all the characteristics of teachers were not pertinent to our socio-cultural milieu. Only ten characteristics were found to be appropriate for the study.

Methodology

Tool Used

A five-point rating scale developed by Bano (1981) for the following ten characteristics was used :

1. Maintaining discipline
2. Fairness in decision
3. Sympathy
4. Fairness in evaluation
5. Personal appearance
6. Freedom of work
7. Sharing decision
8. Subject-knowledge
9. Expression (ability to explain clearly)
10. Students' problems

The split half reliability coefficient of the scale was .98 (N=50). Validity was determined by correlating the scores on the characteristics of each teacher with his personal liking All the correlations were found to be significant at .01 level.

Sample

Data were collected from the public and non-public schools of the Eastern (Varanasi and Jaunpur), Central (Lucknow) and Western regions (Dehradun) of Uttar Pradesh. The sample comprised 143 girls and 540 boys. In terms of public and non-public schools there were 185 and 498 students, respectively, drawn from the two types of schools

The investigator randomly selected the schools from the various regions. A complete list of students studying in Classes IX and X of each school was obtained from the respective Principal's office The investigator selected every second student from each list. Incomplete forms were not included in the sample.

Results

TABLE 1

Public Schools

S. No.	*Characteristics of Teachers*	*rho (Public Schools)*
1.	Maintaining discipline	72
2.	Fairness in decision	.85
3.	Sympathy	64
4	Fairness in evaluation	.84
5	Personal appearance	.71
6	Freedom of work	.21
7	Sharing decisions	32
8	Subject knowledge	.85
9	Expression (ability to explain clearly)	.79
10.	Students' problems	.41

Public Schools

Rank order coefficient of correlation (rho) between the students' personal liking for the teachers and their characteristics was computed, with the results as reported in Table 1. Computations for the two types of schools are given separately. Perusal of the results immediately impresses us with the fact that 'Freedom of work' (.21), 'Sharing decisions' (.32) and 'Students' problems' (.41) have yielded low correlations. 'Fairness in decisions' (85). 'Knowledge of the subject' (.85) and 'Fairness in evaluation' (.84) have yielded high value. 'Expression', that is, ability to explain clearly (.79), 'Maintaining discipline' (.72) and 'Personal appearance, (.71) were also found to be highly correlated with personal liking. 'Sympathy' (64), though a highly desired characteristic, has yielded relatively lower value-

Non-Public Schools

A cursory glance over Table 2 indicates that only four characteristics when matched with personal liking have been found to be statistically significant. 'Sympathy' has obtained a value of (.78), followed by 'Freedom of work' (.55), 'Students' problems' (.51) and 'Sharing

TABLE 2

Non-Public Schools

S. No.	*Characteristics of Teachers*	*rho (Non-Public Schools)*
1	Maintaining discipline	31
2	Fairness in decision	12
3.	Sympathy	.78
4	Fairness in evaluation	.25
5.	Personal appearance	.32
6.	Freedom of work	.55
7	Sharing decisions	49
8.	Subject knowledge	19
9.	Expression (ability to explain clearly)	21
10.	Students' problems	.51

decisions' (.49). It is interesting that the intensity of relationship in the non-public schools is comparatively low, though the values are significant

Discussion

When we compare the attitude of the students of the Public and Non-Public schools, we find that they have commonly endorsed only 'Sympathy'. But they markedly differ in the intensity of their endorsement which is quite evident when we compare the value of rho for both the samples. It is interesting that 'Sympathy' obtained the lowest value of correlation for the Public schools, whereas in the Non-Public schools it has the highest value. In other words the Public schools' students have endorsed more characteristics than their counterparts in the Non-Public schools. Thus the students of the two types of schools markedly differ in their perceptions of the characteristics of the teachers. The difference has to be interpreted in the light of the organisational differences and socio-cultural influences.

An organisation which advocates a strict code of conduct (Public schools) cannot have the freedom to be emotive. The basic characteristics of Public schools are residential where the sphere of discipline is not confined to school hours alone Also local influences are to be discounted. Thus the basic difference pertains to the organisational set-up of the type of schools It was also observed that in the Public schools organisational objectives were clearly stated and the teachers as well as students singularly strived to attain those objectives 'Fairness in decisions' (85), 'Fairness in evaluation' (.85) and 'Expression' (.79) were endorsed because these characteristics were crucial for attaining organisational objectives.

Unfortunately organisational objectives are vaguely defined in Non-Public schools and emphasis is not laid on attaining the aspects already stated above. Local influences often mar decisions which, in turn, affect the attitude of students. Probably these socio-psychological variables were responsible for yielding lower values of rho in the Non-Public schools.

The scope of the present study was limited but during the course of the investigation it was realized that co-educational institutions should also be studied. Biographical variables such as socio-economic status and educational background of the parents may also influence the endorsement of teachers' characteristics. These suggestions may be taken up by future researchers.

Academic Corruption : A Way Out

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WE are at the end of the 20th century. This is not the period meant for rest. The time has come for 'self-evaluation'. What we have so far achieved academically is to be printed and preserved in the annals of history without any colouring. Unwanted colouring leads to 'self-deception'. To test the knowledge of political awareness, a battery of questions have been shot at the public, very recently, by the political pundits The same trend (gun?) has also been turned towards the academicians by the leading national newspapers through a series of questions. The Hindustan Times in an article expresses much worry about the originality of the social theses. Its query is : "How many Indian Universities can boast of producing a single Laski or a Keynes, what to talk of Marx or Adam Smith ? How many Indian Universities can boast of producing a single Ph D. dissertation/thesis, especially in humanities and the social sciences, which can be regarded as an original and fundamental research work ? Perhaps none. Why this dismal state of affairs ? Who is to be blamed for the sordid and shameful situation ?" On the other hand, the Free Press Journal emphasises the need of an International Talent Search Scheme, through its questionnaire, viz. "Name the Indian book written by an Indian author (technical/non-technical) which has received favourable comments from at least five Nobel Laureates in different fields and of different countries". Vedic scientists have their own mysterious questions awaiting the illuminating remarks from experts in the field. The Bharati quotes this problem as "we have never heard of a materialization of a book like a Purana, a Bhashya, or a Kavya, from out of nowhere by a Mahapursha Yogi or Jnani, i.e. bringing a "treatise" into existence all of a sudden through their yogic powers (like materialising Bhasma, etc.). Why is it so ?".

Many such questions are preserved in the QUESTION BANK and posed to the public from time to time. Of course, till today they are hitherto unsolved problems in Education.

The hissing cobras should raise their hoods and dance before the sweet music of flute, and there won't be any charm if the earthworms raise their heads. Every one is eagerly waiting to hear the solutions from the expert cobras. They who have listened to the sweet voice of the male kokila can never hear the dissonance of the crow's cawing. A simple plain truth !

Objectives

The wise are of the opinion that once the solutions to such a battery of questions posed in the academic field are obtained we can safely achieve the following objectives without much effort :

1 To eradicate corruption which is the order prevalent in educational set-ups
2. To ban higher educational institutions which act as showpieces without any contribution.
3. To shake off current educational systems to create a new generation orders.
4. To prevent the 'Brain-drain' problem.
5. To evolve 'original works' from creative minds
6. To recognise the true 'genius', who works for the nations/world at large.

Apart from the achievement of the above objectives, even the ancient questions like the following will have solutions in today's modern education. "Are experienced teachers capable of explaining causes of things, and learned in the science of morals and every branch of learning, appointed to intruct the disciples ? Are the true 'geniuses' recognised according to their merits in respect of various branches of learning ?" (Mahabharatam : Sabhaparva, questions posed to DHARMA).

Genius

In this context of our further discussion on 'Academics of corruption', we should not forget the latest truth of the fact discovered by the current genetic engineers, viz a real genius is an extremely rare quality that mainfests itself as one in 2.1 million people. Sometime, a genius may be a freak, e.g. Thomas Young and Srinvasa Ramanujam (1887-1920) But we have nothing to do with such freaks in this article. Similarly, the Vedic tradition has proved beyond doubt that only one 'Jnani' emerges (takes birth) out of 100 crore people, e.g. Sri Ramakrishna Paramahamsa and Ramana Maharshi

Latest Research Report

The 130 Year Foundation Day (1987) research report on the University of Bombay reports · "Our Universities have failed in their mission of advancing the cause of learning. They provide no facilities for research work, for dissemination of knowledge amongst the people by extension lectures, adult classes or publication of books and research work and making them available to the masses in general. They do not provide practical training, promote social unity in life, give physical culture and preliminary military training ..The type of young man at present turned out by the University is, generally speaking, a comparative failure in commercial and industrial life..." Only the numerical growth is achieved in many Universities, Bombay University in particular.

In the opening issue (Vol No. 1) of its 'NEWS LETTER', Bombay University openly admits : "We are certainly in the news a lot, of late, not always in the most pleasant way..." (July-Sept. 1987).

While the TIFR has many major expansion programmes with excellent laboratory facilities, good faculty and housing accommodation, what is worrisome is the lack of the necessary number of young researchers. Most of our young scientists go abroad since they get better opportunities there

A Way Out

To maintain the nobility and chastity of research and to maintain the international standard, a young research scholar has very recently requested a university to take his viva by inviting the Nobel Laureates as his external examiners for his Doctorial Degree (of course, the relevant papers have been forwarded only through the chancellor to the University) as his thesis has already been reviewed by some Nobel Laureates. The University of Cambridge has also spoken highly about his thesis. He has gone one step ahead stating that the entire proceedings of the viva could be relayed through TV channels all over India for public interactions in deciding the true 'merit' of his book/thesis published. For this, the University replies mechanically that such new innovative practices could be introduced only through High Court notices/injections and not otherwise. Their 'logical' argument is that even the guidelines for MD examinations, merit promotion, etc have been directed only through High Court Orders and academicians of the University have failed to justify things in their right perspective even though they have "Evaluation" as a special subject in the degree classes. Right judgement at the right time saves young generation from academic rut. In such cases justice delayed will certainly be justice denied.

So, if the above proposed new TV-channel-interviews are once introduced, creating a ripple in the field of research, the question of raising an accusing finger against a Doctoral thesis will never arise.

Since Nobel Laureates have Nobel hearts, and they are ever ready to help the third world nations, India in particular, this objective can be achieved so smoothly.

Today, we need, not computers, but creative computer minds, that can design more complex computer operations/modellings intellectually. Creative intellectual geniuses are the need of the hour to show the direction for a New World Order. Only then on the ever-changing phenomenon of the universe be understood properly for adjustment.

Knowledge flows like the Ganges, eternally, from the minds of the wise. So no one can stop this. Trying to stop this ethereal flow is as foolish as a goat dashing against a rock-hill trying to fall it. That is why, the wise say 'knowledge comes and wisdom lingers'. An atomic explosion can destroy the population but it cannot destory the scientific minds, which visualize its abstract nature theoretically. On the contrary, even this abstract mind can absorb these heat radiations of explosion through its atomic umbrella operational structures. The second aspect of knowledge, viz. its propagation lies solely in our hands To make a subject propagate progressively solely on its own merits, one should bring to the surfacial level its foundations like philosopy, psychology, history, research and current trends. Very recently national curriculum framers of various subjects have failed miserably to consider this 'methodological' aspect which is the nucleus of modern education. For example, without any knowledge of philosophy of economics, psychology of economics, history of economics, research in economics, current trends in economics education, etc. how is it possible for any one to suggest the pedagogical aspects of teaching Economics? If the broad base of education is expanded on similar lines of thought, we need urgently subjects like science education, economics education, mathematics education, history education, erected on the bases like philosophy, psychology etc. Soon, the day will not be far off to call for another New Education Commission Report to be redrafted for peace, prosperity, and progress of the nation. This is the main reason why we could not produce any Nobel prize winners.

The cornerstone of the philosophy of modern science is based on the fundamental assumption that original research must be published. "Publish or perish" is the rule in the West. They have proved this in practical terms Educational institutions like Oxford and Cambridge Universities have survived through the sale proceeds of their own publications Why not Indian universities too adopt such systems of self-dependency, instead of extending a begging bowl for funds Strictly, universities are to be gauged not by the height of their tower, but by the wisdom emitting from their light-houses. Many of the Ramanujam Theorems (4000) are printed abroad, and there is no book in India which contains all these theorems. Added to this, it is distressing to note that his valuable contributions are dumped in dust-bins, stolen and uncatalogued. This has been brought to lime-light only after 70 years Is it not a nation-wide disgrace ? Autonomy has to be granted to an institution strictly on this basis, without any external financial assistance from the UGC or donations from the public or philanthropists. Why such kind of innovative practices are not encouraged in India ? Even the UGC should show originality through its publications as a model for other institutions like the NCERT and the SCERTs, instead of burning public money under the name of 'Education' without any sense. The most unfortunate thing is that these institutions have no funds for research but they are talking tall of research, sitting in tall glass towers. All the various Education Commission Reports of of the past have totally ignored these institutions while passing several recommendations on other systems of thought The traditional ostrich with its head in sand is an acme of folly. Remedies certainly exist, but no remedy can be effective if mother institution curse themselves. The mother institutions should ever be a model in the eyes of people. An old saying has it that even the burnt rope will not loose its bent. An ugly person considers himself handsome than others until he sees his own face in the mirror. He that is really handsome never taunts anybody.

As the wide ocean is easily passable by men having ships, so is the survival of a simple secondary school on its own contribution—by producing simple models/aids of teaching, unique of their kind, and supplying the same to other sister institutions through government approval/circulars In the initial stages the school may be in need of industrial help. At the point of production the school and industries will be clubed for the formation of school-complex. Each school is identified by its own unique contribution, one way or the other, and not by the numerical number of rank holders. As a matter of fact, the latest research report says that the first rank holders of institutions/coaching classes mostly lead mediocre life without any contribution to the nation. Statistically, it has been proved that for the production and supply of an atomic working model, a school can earn Rs. 100 lakh approximately. The interest on this principal amount is sufficient to maintain the school for over 100 years. The blind man seekth not his way , the blind man hath no knowledge of direction. Thus pupils will be enriched with wisdom, when they are forced to explain the working mechanism of the model to the other school children. This, in short, is the cross-fertility of thoughts.

Closure of Training Colleges

To solve the hitherto unsolved problem, namely "What sort of teaching technique/strategy (A) is to be employed by the teacher (X) to the pupil (Y), for content material (Z)?" (Here A, X, Y, Z are the variables). The Colleges of Education have erected their structures only to solve this question. The most shameful thing is that even they have not tried or attempted to solve the same even after 100 years of establishment. It is high time for their permanent closure, since they have no moral right to ask for extension of survival. What they have achieved till today is only changing the term 'training' into 'education' and nothing else. Today they are giving special training to pupil-educators for pot-culture, carpentary, soap-making, doll-making, cooking, TV repair, dress-making, microskills, etc under the name 'SUPW'. So they are rightly to be called "Training Centres for SUPW" and not as "Colleges of Education". Without attending the colleges, thousands of pupil-educators have got their degrees. This clearly indicates that these training centres have no impact on society. A person conversant only with the rules without any practical application in life is like a tree decked with flowers but bearing no fruit.

Textbook Production

As swan always extracts milk only, though it be mixed with water, current textbooks should provide milk to the budding swans (pupils) and they should not waste their valuable time in the separation of unwanted material from the current textbooks. The current textbooks lack several items like objectives, chapter-plans, flow-charts, unit-tests, self-tests, historical development of each concept, enrichment material, resource material, glossary, practical applications of each concept in day to day life situations, technique of teaching a particular lesson, variety of examples, models etc. Even the content material is not up-to-date. Textbook bureaus never bother to look at international studies on comparative teachings/syllabi, nor do they care even to look into the syllabi of other states. If private publishers are allowed as competitors against government publications then the true nature of State Bureaus of Textbook Production and Curriculum will reveal itself in true dimensions. Why such trials are not conducted on experimental basis ?

Fiction : Do Children Read ?—And What ?

V.M. MOHANRAJ

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MANY school librarians and teachers tend to force the books of fiction that they found interesting or that they think are good for children, on juvenile readers. This, instead of creating an interest in reading, will only help develop in the children a revulsion for books and inhibit their reading. It is, therefore, imperative that librarians and teachers are aware of the reading interests of children in the field of fiction at various age-levels in order that they are able to give proper guidance to the pupils.

But do children read fiction ? Of late, there has been a growing feeling among educators that modern children do not read as many books of imaginative literature as those of non-fiction "In . . . replies to a questionnaire circulated to a sample of Lancashire Secondary School Libraries, it was revealed that between 60 and 65 per cent of school library books issued (as well as read under free choice during school hours but not taken out of the library) were non-fiction" (Harrison, 1962).

A study of general reading of school children* made by this writer does not corroborate the findings quoted above. Statistics of three consecutive years proclaim in unequivocal terms, that, on the whole, fiction books read by children far

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* Pupils of The Lawrence School, Lovedale. The pupils of this school come from all parts of India and a study of the reading interests of pupils is tantamount to a study of those of Indian children as a whole

The statistical analysis is based on the data obtained from the Issue Registers of the school library The questionnaire method was not adopted for this investigation because "a third to half of the persons circularized do not answer, the report is biased not only because the questioner is apt to select the reports that fit his theories but also because there is a tendency on the part of the person filling out the questionnaire to give the questioner what he is looking for; and incidental memory is too fickle a thing to trust in scientific matters".

13993	10729	3264
14889	12840	2049
16623	13774	2849

be seen that 75 to 86+ per cent of the borrowed by children are fiction.

average number of fiction and non- books taken out per pupil (of different ups) also shows that fiction continues nore popular with them than non-fiction 2)

damentally, the general characteristics reading interests of children as recorded cational researchers like Jordon (1926), n and Lima (1931) or Jenkinson (1940) good even today. And a study made by ter reveals that these are true of Indian n too

overall pattern discernible in the reading ts of children is the basis on which these lisations and classifications by age-groups de by these educationists. On leaving the book stage, which is normally at the age t children enjoy the company of elves, and such imaginary characters created by like Grimm Brothers, Perrault, Hans sen, et. al. Simultaneously, however, they p a curiosity about real life and stray e fictitious world of animals and nature.

TABLE 2

Age	Fiction	Non-fiction
11+	44.4	5.4
12+	37.9	5.1
13+	30.7	9 1
14+	29.2	4 9
15+	18.8	3.5
16+	16.2	3 3

on to tales of adventure and mystery, like those of Blyton, F.W Dixon and such other children's writers These naturally lead them on, in two to three years' time, to detectives (Agatha Christie), thrillers (Frederick Forsyth), science fiction (Asimov, A.C Clarke) and stories of war and espionage (Paul Brickhill, Leon Uris, Le Carre). Girls continue with fairy tales for some more time but soon catch up with boys and plunge into adventure and mystery (Blyton, Carolyn Keene) as well as detectives (Agatha Christie, A.C. Doyle). However, from these they turn to stories of domestic and school life, career and love. And at the age of eleven, most girls leave behind children's literature altogether and take to adult novels. Boys, however, take a year or two more to venture into the realm of adult fiction.

At twelve, children dip into all types of novels before each one settles down finally for a particular kind. This is the critical period, for, if left to themselves, there is the danger of quite a few of them getting stuck with trashy detectives or thrillers for life, or in the case of some girls cheap 'romances' like those of Denis Robins and Barbara Cartland. Many of them, however, take occasional peeps into 'classics' and are fascinated by modern books of literary value like those of Steinbeck, Tagore, Mulk Raj Anand, Hemingway, Maugham, Kamala Markandeya, et. al. and those who have an aptitude for literature do not turn back.

Eleven witnesses a spurt in reading and at thirteen there is an intensification of the interests already developed in both boys and girls. In another year or two reading interests become very much individualized making it difficult for such generalisations and age-wise categorisation.

School librarians and teachers on whom rests the responsibility for inculcating the reading habit in children must, nevertheless, realise that although the type of fiction that boys and girls prefer at various age-levels does not change, the authors who captivate them do not remain the same through successive generations. In a survey carried out in the summer of 1962 in Yorkshire (Butts, 1963), H G. Wells came off as the most popular author. "The rise in popularity of Wells and Verne is simply staggering, since neither warranted even a mention" in Smith and Harrap's (1957) survey. Today, Wells and Verne have, to a great extent, given way to Asimov and Clarke besides many other modern writers of science fiction.

In the '40s, it may be recalled, the most popular authors of Indian children were Ballantyne, Steveson, Kipling, Dumas and Scott but in about twenty years they were replaced by Douglas V. Duff, Arthur C. Catherall, W.E. Johns and others Today, even they do not enjoy the popularity of Franklin W. Dixon, Carolyn Keene, Alistair Maclean and such other novelists.

It must, however, be borne in mind that such a phenomenon is not found in the case of children of lower age-groups who live in the imaginary world of fairies and they continue to favour Grimm Brothers and Andersen.

Teachers need not, therefore, be perturbed (as many of them, today, are) about the apathy of pupils towards those works of literature which interested them when they were young and which they think are the books that every child should read These teachers also feel that children's fiction—the novels of Alcott, Blyton, Dixon or Keene, for example—has no literary value whatsoever An evaluation of these works from a literary point of view is beside the point; these books, it cannot be denied, give them the experience at second hand of perilous adventures and an insight into human nature, thereby gripping children's interest and helping create in them the reading habit. Those who have the aptitude for literature will now, naturally, look for standard literary works while the others will go in for books that deal with the subjects they are interested in.

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Book Reviews

Investment in Education and Social Choice

Tapas Majumdar, Orient Longman, Hyderabad, 1984, pp. XIV + 122, Rs. 50 00

MAJUMDAR'S Investment in Education and Social Choice is the outcome of a study carried out at the Institute of Development Studies (IDS), University of Sussex, England. It was first published by Cambridge University Press. The study takes its theoretical stance from T.M. Schultz's (1961) article—"Investment in Human Capital". It tries to answer the question—"What happens to the economics of education when the "market" for education is described in terms of investment in human capital (following Schultz) rather than in terms of demand and supply of a consumption of food or service?"

In the broad framework of economics, Majumdar examines the problems of economics of education, namely human capital, investment return and social choice dilemma in education. The framework developed in the study is based on the inter-relationship of three basic notions : domain distinction, micro-macro argument; and collective choice argument.

The domain distinction is the notion of aggregate investment in education. It is made of two kinds of investment · investment by individuals or their parents for procuring or buying their education; investment by other individuals or society for providing or selling that education. This implies the combination of the different though complimentary categories of investment decisions that have to be treated separately. This is different from the investment in a steel mill (where the two-part distinction does not exist). So the physical capital analogy cannot be applied to the economics of education in toto

The micro-macro argument in regard to investment in education arises from the feature that the decisions made in the individual domain and in the institutional or social domain of investment in education are different sets of agents. Micro-economic considerations are applicable to the former, but macro-economic considerations pertain to the economy as a whole. For the implications of micro-economic considerations of the individual decision, both must be considered by the social investors in education This implies a two-part division of simultaneous and sometime conflicting micro-macro considerations in educational investment. The author laments that this consideration has been missed in the analysis of social policy regarding investment in education. The collective choice notion is a new one in the field of education. It is the notion of social choice as collective choice and it applies to the analysis of economic policy in general. Majumdar emphasizes the desirability of combining the positive macro-economic argument with the welfare economic considerations in the discussion of economic polity. This is necessary for discussing inter-personal compatibility of any kind or to decide which set of collective choice rules should hold.

The difficulty of the treatment of the three above named themes in the economics of education has been in the assumption of homogeneity. The author pleads for the other paradigms on the same themes and to re-examine the structures as there are considered to be heterogeneous. Majumdar has elaborated the nature of heterogeneity in the three themes : human capital; process of decision-making, or the act of decision-makers in education.

A critique of the conventional approaches for measuring the rates of returns to investment in education is provided. These approaches are of homogeneous and omnibus character and are based on the number of years of formal education The purpose is to clarify whether the rate of return can be regarded as an instrument or (index) of optimisation in the same way as the rate of return elsewhere would be. The author argues that it is necessary to make sure that we are really talking about and comparing the marginal rates of return to education within the same definitional framework used for treatment of optimisation of investment decisions elsewhere in the economy.

Further, any omnibus rate of return approach is bound to be inadequate, such an instrument cannot discriminate between the different purposes (individual or institutional societal) decisions. The Hansen type of rate return tables are based on years of schooling limitations. They are not able to account for non-formal education Majumdar visualises that a more comprehensive set of indicators of return would be required if all the three levels of arguments are to be considered for societal investment decisions in education

The education-oriented reader will find the six case studies from different countries like Brazil, India, USA, UK and France regarding social choice problems in education of some interest. Here the author brings out the inter-personally differentiated character of the returns to individual investment in interpreting the returns from the society's point of view for arriving at optimal investment decisions. From these studies it is evident that there are differences in educational opportunities in different countries based on place of residence, socio-economic status and ethnic group. For the educational investor, it is desirable that where the individual is able to invest less for buying or procuring education, the society has to spend more for providing or selling education and vice-versa, in order to minimize inequality in educational opportunity The examples presented here deal with the choice dilemmas, that is, to determine the relative weights of the two inequalities. In situations where the indicators of inequality of opportunity are not two but many (between sexes, classes, religions, castes and regions), the possibility of the societal dilemmas emerging is also increased many times.

From these case studies Majumdar attempts at a classification of the choice dilemmas discovered. Type I problems of social choice can be seen in the context of societal concern for economic efficiency and therefore may be seen only indirectly as collective choice problems. Type II problems are visualised in the context of societal concern for equity and social justice and therefore visualised directly as collective choice problems. Regarding the equity-efficiency quandry, it is observed that there is a basic complexity of relationship between equity and efficiency in educational investment. Lastly, the author pleads for a new economics of education that must address itself to various kinds of heterogeneity. The book indicates the direction of analysis and the dimensions involved, but the task of providing a more constructive theory remains. It will involve the application of social choice theory to macro-economic as such and the resultant will be a new body of welfare economics in education

In sum, this book has broken new ground in the economics of education that will catch the attention of educational-oriented economists for further probe and extension of this work. The book will be of interest to the students and teachers of economics and education, educational planners and administrators. The reviewer hopes that Prof Tapas Majumdar will come out with a model of Investment in Education and with a definite theory of welfare economics of education. The book is readable and the publishers have done a good job It is sure to generate some research and fresh thinking in this area which is coming into prominence. The author deserves the gratitude of the reader.

P.C. BANSAL

Adult Education and Socialist Pedagogy

Frank Youngman, Croom Helm, London, 1986, pp. 272, £19.95

Adult Education in Yugoslav Society

Edited by Niksa Nikola Solgan, Zagreb, 1985, pp. 320, price not mentioned

Adult Education—A Multidisciplinary Approach

T.S. Sodhi, Katson, Ludhiana, 1986, pp 242, Rs. 150.00

EDUCATION has become so accepted a practice that, except in a few undeveloped societies, an uneducated adult is hard to come by Of course, even the most advanced societies have their Johnnie's who can't read and more recently even a term aliteracy has been evolved to describe a phenomenon wherein an otherwise literate person just does not have a desire to read. Therefore, we have a situation in which a general consensus exists in favour of imparting literacy to all, irrespective of their age, sex or monetary status, and yet there are people who either have no time, inclination or facility for acquiring the basics of the three R's or would be only too happy to relapse into illiteracy.

However, the reasons for providing literacy to adults are radically different between the scioalist and non-socialist countries. Why must this be so when the end-products of all these programmes are identical ? Perhaps one could find an answer to this query in Youngman's book : "Historical study shows that in different periods socialists have regarded adult education as a source of support for the economic and political struggle to overthrow capitalism and construct a socialist society" (p. 3). The other side of the coin can be seen in a citation from Sodhi's book : "In this era, learning is essential not only for the survival of man, but also for individual and social maturity. It is necessary for personal development and adaptation to the rapid social changes caused by the colossal amount of new knowledge or technology" (p. 1).

If one wanted to see all the three stages or meanings of adult education competently described, one should see chapter two of Adult

Education in Yugoslav Society which defines and describes three different meanings ascribed to this education :

1. Adult education before 1918 was given to bring home to people the importance of learning and knowledge.
2. Adult education between 1918 and 1941 was given having in mind the reason of the state and disregarding the cultural and historical specificities of Yugoslav society. The institutional solutions were found in popular universities ; schools for adults, and educational societies.
3. The current philosophy is that adult education is an integral part of the global educational system both in law and in fact.

The historical transformation of the term and purpose of adult education has led to the rise of a corresponding theory of learning and also a methodology of teaching. From an ordinary situation wherein a teacher teaches and adults learn what society wants them to learn to wherein adults learn what they need to learn for their survival and change presents a whole spectrum of learning and teaching strategies and also ideologies

All the three books under review expressly identify the ideologies and strategies involved in a given framework.

We therefore take up Youngman's book first because it seeks to identify "The obstacles to greater social justice and educational equality as the products of capitalism and proposes socialism as the radical form of change necessary to remove them". According to Youngman, education is cultural and ideological institution inextricably linked to the economic and political structure of society. The proof of this argument lies in analysing the establishment of mass education in the 19th century both in the UK and the USA which was no more than a conscious political response to the instability created by industrialisation and the emergence of the working class. Even now in contemporary capitalist systems education continues to serve the interest of the ruling class, and acts to legitimate its rule and to train people to fit into the socio-economic hierarchy. Seen against this background, the purpose of giving adults an education would become very clear. If the geo-political systems differ, so would the programmes of adult education. In other words, the commonness of appelations is not enough to make them similar either in content process or approach. Whereas Youngman's book presents guidelines for socialist adult educators (see chapter 3), it asserts at the same time that contemporary education by itself has no scope to provide any change in society If change in education is desired, one has to change the society first for which a programme of action is provided.

Youngman's book makes two significant contributions : (i) it analyses all the existing literature on Marxism to establish the need for a 'Socialist Pedagogy', and, (ii) it presents a critique of Paul Freires works to show that they do not provide a satisfactory basis for adult education for socialism (p. 191). He therefore stresses the need for a socialist pedagogy of adult education which takes care of all the principles that he has enunciated The existing picture in this regard is dismal as Sharp (1980) says : "I do not think that the analysis has yet been done which can guide us very much in the practice of Marxist pedagogy. The goals are clear but radical teachers lack a theory of pedagogy and are forced to rely on little more than hunches and invitations" (p. 235)

The second book, viz. Adult Education in Yugoslav Society is both a historical analysis and a contemporary survey of adult education. Read immediately after Youngman's book, its chapter on objectives of adult education in

Yugoslav society makes a fascinating reading. They are ·

1. Improvement of the general educational level.
2. Education of workers for work.
3. Development and acquisition of social knowledge needed for participation in social and political work.
4. Development of knowledge and skills needed for self-management in all domains.
5. Meeting different cultural and aesthetic needs.
6. Education for private and family life.
7. Education for preservation of physical abilities and health.

As compared to both these books, Sodhi's book is a simple description of what adult education means in India, how it is being pursued and what it promises to achieve. His efforts to examine the relationship of adult education with psychology, i.e. different theories of learning, with economic development, with natural sciences and applied sciences, social sciences, etc. along with its possible success through mass media and libraries are painstaking. One could appreciate Sodhi's efforts because it also fulfils a purpose.

All these books make a good reading for their content and explanation.

NEERJA SHUKLA

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TO OUR CONTRIBUTORS

JIE invites articles/papers on the impact of educational research on classroom Practices, and policy decisions. Specific examples where this impact is apparent may be given.

GENERAL EDITOR

Educating for Hope

We are entering the New Year with a certain degree of trepidation of heart, for the simple reason that during the course of 1987 several events of importance took place—a few of which may not pass muster under the caption 'academic activities'. For example, teachers' strike may or may not be justified but it signifies a certain degree of defiance of authority and also protest. Teachers' strike has come to be accepted by all as a fact of life and, therefore, there cannot be any tenable arguments against it Teachers, like doctors, lawyers, and engineers, belong to a professional class of people and consequently, their logic should be a shade different from worker's trade unions. If any organised class of people comes in direct confrontation with government in view of their demands, the merits of the case apart, the third party, i.e. the uninvolved yet affected people have also a right to opinion. The honour and credibility of that class of people will be compromised if both the government and the people somehow come to developing a similar opinion. Unfortunately, on that count alone did teachers lose a bit of their face. Surely this did not augur well for the New Education Policy.

In this context a lot was said about India's bureaucracy—both academic and civil. Perhaps there is some type of suspicion lurking in the minds of the academics that the bureaucracy is always opposed to the academics. In this connection a new coinage—'geriatric bureaucracy' came to be circulated Funny though it may seem, some of teachers' suspicions are justified. Their fear does not emanate so much from the designs of 'civil' bureaucracy, as from the actions and pronouncements of the 'academic bureaucrats'. In other words, the latter generally win the laurels for being cussed, unthinking, rule-sticking and impolite.

The idea behind raising this issue was to recall that if the last year was not a very pleasant one, there is no reason to believe that the present one could be any better if efforts were not made to see that past does not repeat this year too. We hope it will not. Indeed, it is through hope alone we live and survive Therefore, we hope that India's education would start with fresh vigour in the light of the New Education Policy In that alone lies our future—both as teachers and students.

GENERAL EDITOR

Teacher Education in India : American Influence

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INDIA inherited from the British a fairly well-established though not national, productive, appropriate or adequate educational system, which tends to persist even today. As this system, since its inception by the foreign rulers, was neither linked to Indian needs and aspirations nor aimed at producing the right individuals for a free democratic social order that India chose to adopt, the education in India and, consequently, India's growth and development continue to suffer. Nevertheless, some changes made in the recent past and some that are in the offing may be the foreboding of a reasonably suitabte educational system and of a bright future for the country.

The belief that India had virtually no educational system before independence from the English rule is a travesty of truth and is derogatory to the Indians and disparaging to the British Indians on their own had established and maintained an indigenous system of education, often called traditional education, and in addition the British rulers gave India an educational system, often called Western education. Thus, when the British rulers left in the late forties, India had a fairly organized and functional educational system, though it was neither wide-spread nor modern.

American Influence

If India's teacher education programmes

The authors would like to acknowledge the helpful suggestions on this text by Dr B S. Randhawa, and Dr. Dan Dorotich, University of Saskatchewan, Saskatoon, Canada

have a pattern of courses that strongly resembles those in North America, it may not be due to the influence of the American Agency for International Development, as claimed by American teacher educators.[1] Instead, the influence may be that of the British programme of teacher education of which Indian system is still more or less a replica, and to which the North American programme might have been similar. By and large, teacher education programmes in India, apart from a few unsubstantial changes, are still the same that India had in the pre-independence era.

American influence in certain areas of teacher education, however, has been very much there, though in a limited number of institutions. For instance, the four-to-five-year programme for secondary teachers and the two-year programme for primary teachers are based on the North American pattern The four year programme for secondary teachers is confined to the four Regional Colleges of Education which are run under the aegis of the National Council of Educational Research and Training (NCERT). In almost all the other colleges of education in the country the pattern for the training of secondary teachers is one-year teacher education following one or more university degrees which the British rulers had introduced before independence in 1947.

A typical programme of teacher education in India in the after-degree teacher education colleges would include courses in Philosophical and Social Foundations of Education, Educational Psychology, Indian Education, School Organization, and Methodology of Teaching and a student teaching. This represents a bequeathal from the British tradition. The fact that the courses in teacher education in India are similar to those in North America does not mean that they have been imported from the USA or brought to India by the American experts. It may mean that the British courses on teacher education are similar to the corresponding American courses. A remarkable difference between the courses on teacher education in India and the USA is that the textbooks used in India are shorter and their style is akin to that of the College Outline Series. It might be argued that if the courses in India followed the North American pattern, Indian teacher education would be better

Courses on curriculum and instruction do not teach, much less do they emphasize the importance of behavioural objectives and taxonomies, though these would certainly, improve teacher education and, concomitantly, raise the quality of teachers. In the fifties, educators in India had the good fortune of learning a great deal in this regard from Dr. Benjamin Bloom of Chicago University who introduced to the colleges of education the taxonomy of educational objectives. He held several workshops at various places in the country to train educators regarding the intrinsic interdependence of the trinity— educational purposes, learning experiences and evaluation techniques—without which no abiding reform in education can be made. Dr. Bloom did spearhead a countrywide programme to reorient the examination system with a view to making it an important ally in the creative reconstruction of the Indian educational system. A remarkably effective teacher, he made many teacher educators, school heads and all those who were in a position to enforce his movement in education, fully conversant with the ways evaluation and, consequently, instruction could be completely reformed.

Although Bloom's movement continued, mainly through the follow-up maintained by the All India Council for Secondary Education and the NCERT, and his concepts registered their indelible impact on certain institutions, status quo and orthodoxy stood in the way of its absorption in education The inescapable result of resistance to change is that Indian education stands deprived of the educational reforms that Bloom's teachings could have yielded.

Student teaching in the teacher education programme in India is akin to that in North America probably because student teaching in North America resembles that in Britain, while the Indians continue to practise the student teaching pattern that the British gave them Among the typical characteristics of the age-old Indian teacher education programme are the practices of teacher education faculty supervising all the lessons taught by student teachers, classes strictly observing the syllabi and textbooks, recitation method dominating in teacher education, and content being examination-oriented. These practices symbolize major differences between Indian and North American programmes

There is no denying the fact that the content taught in Indian schools and colleges is tied tightly to an unforgiving system of evaluation. In fact, the Indian educational system gives an unbridled impression that learning or education is nothing but rote memory which external examinations must test. It was this flaw in the examination system and, consequently, in the educational programmes that Bloom's campaign sought to remove.

It is true that the present quality of teachers is, by and large, not as good as it needs to be, though the fault does not lie merely with the fact that teacher education does not attract its share of good candidates That a few of the better students enter teaching, that women enter teaching to ensure against the death or loss of earning power of the spouse, that monetary or status reasons make persons attain any job except teaching, that they enter teaching as a last resort—were old, hackneyed arguments offered several years ago when teaching was not a lucrative or status profession. Today, teaching is comparable to any other employment that brings reasonable pay and good status. Some urban graduates, upon completion of teacher training, prefer other equally good jobs to teaching for fear of being posted to far-flung villages where status, mobility and material quality of living are lacking, though those who love teaching do not do so.

To a small extent, teacher education does miss its share of good candidates for the reason that some high achievers are tempted to go in for administrative services, which in India are at the top from the viewpoint of monetary and social status.

The major reason, however, for not having good quality teachers is the faulty recruitment of teacher candidates. The criteria of selecting teacher trainees in most colleges of education include conditions other than the results of teaching-aptitude tests; the most popular criterion is the scholastic score in the final graduation examination. Those who are seen to have aptitude for teaching are expected to profit most from their training, that they will make good teachers, and they will accept teaching positions upon graduation and will permanently stick to the profession.

The quality of teacher education too is seen to matter in the making of a good teacher; it may frustrate a budding teacher or chisel out one who can make a nation builder. Teacher candidates selected on the basis of a sharp teaching aptitude instrument and who are provided with an enriching comprehensive teacher education experience can turn into teachers and a profession, of which the country can legitimately be proud.

Inservice education of teachers is not neglected in India as has been misconstrued by some scholars in North America. Besides the extension services of departments in colleges of education, independent inservice education centres are also providing inservice education, both academic and pedagogical, to employed teachers. In service educational development of teachers gets further impetus from the university correspondence and continuing education courses as well as from such agencies as the National Council of Educational Research and Training (NCERT), similar councils at state levels, state institutes of science, the National Institute of Educational Administration and the like. Inservice as well as continuing education of teachers is, thus, amply looked after in India.

Research in Teacher Education in India

Educational research is no longer a new activity, there has been an increasing upsurge in the last two decades. Substantial research in teacher education has been conducted by teacher educators and research scholars at M.Ed., M.Phil, and Ph.D. levels. Quite a few of the research studies completed in India compare favourably to similar research studies in the USA and Canada. Some of the research is funded or subsidized by the University Grants Commission (UGC), the NCERT and the universities, while many of them are financed by the scholars themselves. Here lies a major difference with North America where research budgets and support, as well as incentives for research, appear to be larger than those available in India.

Some of the Indian research studies take the form of evaluation of innovations in teacher education. But what causes consternation is that many of the research studies, after completion, are relegated to the "educational utopia", never to be resurrected. Some innovations are North American imports. Investigations of interaction analysis, micro-teaching, simulative teaching, teaching strategies and programmed instruction have become targets of research only recently. The introduction of these areas in teacher education curriculum and their attendant research have, of course, initially resulted from individual interest and experiments by teacher educators who became interested in the new approaches to teaching through American research literature. A few professors in a college of education or a university department of education or at the NCERT would stimulate interest in others by conducting their own research, assigning research problems to their M.Ed., M.Phil., and Ph D students, and holding conferences with, and training the staff of teacher education colleges on problems related to these topics. Whether the size and contribution of the research exceeds that in the USA is a question that could be answered only after a comparative survey of the research completed in the two countries.

A very pertinent question that many educators in colleges of education are likely to raise is whether the results of research studies in education or teacher education are utilized to reform education or the relevant aspect of education, and whether the innovations found successful or useful as a result of research studies are actually introduced or assimilated into the educational system. There is usually a gap between what research has revealed and what is actually translated into practice. It seems that this "gap" is larger in India than in North America.

Many of the innovations, like micro-teaching, simulative teaching, and programming of different varieties, imported from the USA, are being successfully tried in the teacher education system of India, and several trials have shown that they are equally useful and effective in the Indian cultural setting. In fact, a concept or innovative procedure that is theoretically sound, or based on certain psychological principles governing human behaviour, can be transplanted anywhere. Educational researchers, proceeding from such assumption, have gone ahead with introducing imported innovations in India and have invariably found their evaluations of these almost similar to the findings of American researchers. Whereas numerous studies on the transplanted innovations have been completed and several others are in the process, the educational leaders have still to make these innovations a part and parcel of the teacher education system, the reason being that the size and rapid development of the country and its vastness and diversity do not easily permit uniformity of the system. At the same time, indigenous innovations that come handy in promoting education and teacher education that are particularly convenient and suitable to Indian conditions of work and to Indian education keep on attracting educators, who sometimes however tend to resist anything new, American or Indian.

Teacher Education—A Critique

It is a fact that Indian teacher education is still far from achieving national goals, that it continues to be largely unchanged, that it stands isolated from the mainstream of national life, from the academic life of the university, from school and even from the community it is meant to serve, that the quality of its faculty is too low to raise the image of education as a discipline, and that changes in the areas of "the teacher as a citizen, education as a discipline and the theory-to-practice gap" are still hanging fire, as has been reported by the NCERT.[2] It is evident that Indian education has neither absorbed the imported innovations of the West which could raise the level of teacher education, nor has it achieved complete riddance from the British system of teacher education, which was a prerequisite to orientating education so that it could play the role of transforming India into a truly democratic, socialist, and secular society.

Fortunately, however, educators, political leaders, social reformers, and the establishment are increasingly getting intensely concerned about education. Here and there many educators have voiced the urgent need of value education so as to develop Gandhian values of non-violence, dignity of labour, truthfulness, self-discipline and self-reliance. Need for vocational and social education both at school and university levels is also being discussed.

Recently the Prime Minister of India has presented to the nation the *Challenge of Education—A Policy Perspective*,[3] a very vital and key document on education where the shortcomings of the present education, including teacher education, have been delineated. It also provides a blue-print for future educational plans, and it emphasizes the necessity of overhauling the system so as to make education strictly national, effective and appropriate Commitment of society to education and the sense of purpose, dedication and integrity in all those who are destined to implement educational policy have been particularly emphasized in the document. The document has aroused considerable interest in both educators and the general public all over the country, giving rise to the holding of numerous seminars, discussion groups and conferences. All this augurs well for future education of the country

The major criticisms of Indian teacher education such as its academic weakness, isolation from academic community, lack of disciplined structure and irrelevance to social conditions, are universal in nature, as identical criticisms are reported in the UNESCO reports (1976-1978) and the US report (Joyce and Clift 1984).[4] Is, then, teacher education a commonly much-maligned system in most countries ? Is there something in the very nature of this system which prevents it from steering clear of its flaws? Is teacher education the weakest link in the education system of most countries ? If the answers to these questions are positive, as it appears they are, these would raise many eyebrows and impel us to dig deep into the system of teacher education with a view to removing the snags, and making it an effective vehicle for the training and education of future teacher.

Problems in Innovation

Even though the suitability of some imported innovations on India's soil has been demonstrated by educational researchers and teacher educators, resistance to assimilating universally those ideas in their teacher education system crops up. Inter-cultural differences in educational and social settings, even intra-cultural differences in settings, in the vastly diverse society of India, tend to cause such resistance, the fear being that the innovations tested in one setting will not be applicable or suitable to another setting. Demographic, linguistic, economic or other variations do make the settings different, but these differences do not supplant the essential similarities which exist within different settings in the same country and which essentially insure against any disparate finding. Assertions and apprehensions that different settings in the same country will not yield similar effects of an innovation have been proven false by several studies in India But such apprehensions are an obsession with most teacher educators that restricts them from going ahead with the adoption of imported ideas They insist that they must test the innovation in their own setting before adopting it, and, since testing means organizing and executing a research for which they do not have the time and wherewithal, they desist from adopting the innovation.

Nevertheless, there is need to undertake research to determine the extent to which educational procedures in the United States or Canada may fit the Indian cultural setting. Similarly, there is need to conduct studies dealing with inter-cultural differences and intracultural differences in Indian settings. Till then, apprehensions regarding the applicability of American ideas to Indian cultural settings, or that of Indian ideas tested in one setting to another setting, are bound to linger on.

Such problems of introducing innovations in the teacher education programme as finding time for them in an already full-time curriculum, integrating them with the predominantly theoretical and verbalistic courses, including them in the subjects of examination (without which no subject is really learnt in the examination-oriented educational system), and achieving a place for them in the certification and accreditation system do crop up at the initial stages, but these would not be a hurdle once teacher educators get convinced of the efficacy and suitability of the imported ideas in their setting

As in North America, linking courses to student teaching, which is essentially warranted when we adopt the innovations in teacher education, is possible only if the school setting is tightly linked to the university and if school and college of education teachers work in close collaboration with each other while they study and use the same or parallel procedures. Most college faculty members have very little contact with schools, apart from direct supervision of student teaching. Thus, as the introduction of innovations must be preceded by certain administrative and functional changes, developing procedures and training faculty members, which no college of education can do on its own, Indian educators fail to proceed beyond conducting research studies on innovations

It is not surprising to note that there are parallels between the problems of innovation in the cultures of India and the USA, and that similar difficulties arise in the two countries in the way of inducting innovations in teacher education. The parallels are especially striking when we consider that American students and teachers cherish values that render them prone to adopting innovation as against Indian students and teachers who are tradition-oriented and thus resistant to innovations. These differences in values were revealed in a study by Kakkar and Gordon[5] in which Indian teachers and students scored significantly higher in conformity (doing what is traditionally done) and lower in independence (having freedom to do what one wants) than their American counterparts, and again in another study by Gordon[6] in which American students scored significantly higher than their Indian counterparts in practical-mindedness (to do things that pay off) and variety (to do new and different things).

The ability to generate and implement an innovation in teacher education is not invested in the executive in India What happens is that faculty members in a college of education generate an idea, study it, experiment with it and discuss it with other faculty members If the idea is accepted by the faculty, the college prinicipal sends it to the dean of education in the university where it is dicussed by the board of studies in education, the faculty of education and the academic council—in this order, each body, if it accepts it, passing it to the next. If the academic council accepts the idea, it becomes a part of the syllabus or curriculum of a college of education ; and it then, has to be executed or implemented by all the colleges of education affiliated to that university. The new material (i.e. innovation) then has a firm niche in the curriculum of an institution, and has achieved the requisite priority in the examinations which is the only guarantee that the innovation will be learnt and practised by all those who undergo the course. Sometimes the innovation comes to a college of education from the NCERT (via a university) which has already discussed it threadbare in several workshops or conferences in which professors of colleges of education also participate. The NCERT passes on the new idea to the university where it has to pass through the three above-mentioned bodies before it forms part of a course-schedule of a college of education

The overseas originators, as it is well known, enjoy greater freedom and autonomy and should be able to achieve a greater depth of implementation. In India, there are many teachers, professors and directors who are very receptive to innovations, and earnestly cooperate to test and implement them, but they alone cannot achieve implementation.

It is true that Indians are rapidly adopting foreign modern and advanced artifacts, ideas, and technology and that tremendous social change is going on. But, Indians stand for change as much as for stability, while retaining their typical Indianness. Their speed of change may be great simply because they need to change in a big way in a relatively shorter span of time for achieving prosperity, removing age-old poverty, raising the standard of living of their people and becoming adequately self-sufficient in every aspect of living

The magnitude and the speed of change, however, have been infinitesimal in Indian education, more so in teacher education, as compared to the social and technological changes that are taking place there Amidst a massive cultural reorientation, and advanced technology from the West, the dimension of change in teacher education has been rather small, though Indian teacher educators wish it were much more [1] The need for such change has been intense and that is why the Indian teacher educators are always itching to try and implement the Western innovations Perhaps the English education system had been rooted so deeply that early attempts to uproot it proved futile, or perhaps conformity with what is already there, which is a dominant value nourished by the Indian tradition and culture, has been keeping India back from seeking an overhaul of the existing education system

Indian educators have still to build mechanisms to promote experimentation and research into the structure of teacher education, even education as such, which would go a long way towards the adopting of innovations that can improve and raise the level of teacher education.

Here and there in institutions of India there are committed researchers, teacher educators, and educational leaders who are really interested in introducing new ideas and making bold ventures into education with a view to bringing it in line with any modern system on which the nation could safely depend.

Joyce and Showers,[7] while making interesting and incisive observations on the structure of Indian teacher education and while comparing it with theirs, have found several parallels that tend to comfort the Indian educators amidst scores of problems that keep on worrying them. Smug with the belief that the USA and Canada, the technologically and educationally advanced countries, face difficulties, similar to theirs, in the matter of introducing educational innovations, Indian educators feel contented with whatever they have achieved in this behalf, though their achievements leave much to be desired

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Fostering a Sense of Accountability

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IT is a truism to aver that the best in an individual manifests itself only when one exhibits a sense of personal accountability to his thought, word and deed. Nowhere is this more true than in the field of teaching. It is perhaps this aspect that is reiterated in the pragmatic Plan of Action relating to the New Educational Policy. For the first time since Independence, a mass movement has been generated all over the country to make education a little more meaningful and challenging.

Promoting Pupil Learning

The months of May/June 1986 witnessed hundreds and thousands of inservice training camps of school teachers and headmasters—primary as well as secondary sectors—all over India to clarify and crystallize manifold issues pertaining to classroom transaction. In these camps participatory pedagogy replaced single-track approach. Teachers and headmasters sat together to work in small groups to give a concrete shape to the laudable but nebulous objective of promoting pupil learning.

The question that was posed again and again was whether teaching always resulted in pupil learning. Talks on a variety of teaching strategies made many a teacher realize that, after all, chalk and talk need not be the sole highway of classroom instruction. Also, an awareness was created that the public at large could ill-afford to remain silent spectators as well as vociferous critics of what happens in schools. Educating children, particularly during the formative years, is deemed to be a joint responsibility of parents and teachers.

The ten-day camp also gave an opportunity to teachers, drawn from rural schools, to bring to public gaze the dilapidated structure, the damp and dusty floors, ill-ventilated classrooms, inadequate furniture, unusable blackboards and myriads of disadvantages. How could one possibly facilitate learning under such primitive conditions is not the impish question of a skeptic but a genuine concern of committed teachers[1]

Children could be lured to the school by promising free lunch, but could they be transformed into promising youth, exhibit an insatiable quest for knowledge and wisdom, under these sub-human conditions!

Do we have to redesign the curriculum, make it more relevant and responsive to the realities of rural surroundings rather than meekly accepting a standardized one of the metropolitan brand? When and how are we going to remove the hedges and shrubs that have divided subjects instead of fostering a holistic outlook? Should science be inter-disciplinary or, should teachers owe their loyalties to the specific branches they had specialised in their colleges and universities? Whose task is it to weave all the variegated threads and bring out a fabric that would be acceptable to the kids in classes?

Does a teacher have to clamour for costly aids and charts to carry with him to classes or can he be creative enough to improvise low-cost apparatus out of waste materials? Perhaps the brain behind the beautification of Chandigarh park out of broken tea-cups and mugs could have been exploited to generate ideas among teachers! It was really an exhilarating experience to visit the training camps, witness the interaction of teachers, the enthusiasm of the course directors and the cooperation of the resource persons as well as the guest speakers.

Need for Quality Control

A review of the Massive Inservice Training Camps was held recently at the headquarters of the NCERT. It was attended by Directors of Education, Directors of SCERT, Field Advisers of the NCERT and Principals of Regional Colleges of Education. What emerged in the three-day meeting was a general feeling of triumph. The new spirit and enthusiasm have been quite pervasive among the teachers which was evident from the reports from the States that the attendance of teachers was close to hundred per cent. Every State representative expressed the need to continue the inservice training camps for a few more summers so as to orient every teacher in the country Even though minor shortcomings in the organization of training camps such as poor translation of modules into the regional languages, lack of clarity and vividity in video presentation, inadequate fund allocation surfaced during the discussion, these paled into insignificance against the backdrop of a Titanic triumph of the new venture.

The Joint Director of the NCERT, in his concluding remarks, not only appreciated the wholehearted cooperation extended by the States but also made a few profound observations. He underlined that, notwithstanding the scaffolding support afforded by educational planners from the Capital, the key person in the transformation of educational scenario in the country is the one at the end of the assembly line, namely the humble classroom teacher. The destiny of a Nation is being shaped in the classroom—an oft-quoted refrain from the Kothari Commission Report[1] Unless a teacher realizes the trust reposed on him by the society and feels personally accountable for success or failure, there would be very little real progress in education The change of heart must precede, the change of mind

Considering the magnitude of the responsibility that a teacher would be called upon to shoulder henceforth, there has to be a kind of quality-control for admission to teacher-training institutions. Only those who have the zeal and also aptitude to teach should be allowed to enter the profession. Any attempt to let in all and sundry to drift into teaching would be perilous in the long run The radioactive effect of immature teaching is bound to stifle the cognitive development of many a mature mind.

Work-oriented Education

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SINCE Independence there has been a steep rise in enrolment in colleges because of linking degrees to jobs. Employment opportunitise have reached almost the saturation point. In order to meet the challenge of the unemployment problem, attempt is being made to restructure the curriculum in colleges and introduce work-oriented courses. The nature of the courses to be introduced depends on the resources available and the needs of the society.

Education and Economic Development

Education and the economy of a country are inextricably linked. The policy-makers must consider educational outputs as essential inputs for economic development.

Our educational system must strengthen our developmental effort by making available the kind of manpower needed for the purpose. Something must be done to ensure that those who receive education get usefully employed and do not remain jobless. Productive and gainful employment for the educated maximises the contribution of the educational system to the nation's economic development.

In 1949, Prime Minister Jawaharlal Nehru, commenting upon the educational system inherited from the colonial days, pointed out:

"These examinations of ours and the education that lies behind them are looked upon just as stepping stones to employment by Government. Nothing could be worse for education. Our Universities turn out tens of thousands of graduates who do not know what to do and appear to be incapable of doing anything except in office. Our education has been described, perhaps a little uncharitably, as a training for unemployment".

We cannot ignore the fact that the weakness to which Nehru had drawn attention has persisted and perhaps has grown even worse. A vast number of students go to universities and colleges, only because degrees are needed for most government jobs. Further, most of those who call themselves educated look only for office jobs and are reluctant to soil their hands by working in the fields or factories.

There are tremendous imbalances between the need for educated and trained personnel and their supply. We seem to have a surplus of people with degrees, not just bachelor's degree but also post-graduate and research degrees, who cannot find suitable employment. The highest percentage of unemployment, according to such figures as are available, seems to be amongst graduates offering arts, science and commerce (27% of the graduates have remained economically inactive. Primary and middle level—8.17% and Secondary level—21%).

At the same time, we cannot ignore the fact that a vast number of jobs in the country are being performed by people who have not been adequately trained or educated.

Delinking of Degrees from Jobs

Thus there is great need for delinking of degrees from jobs, with the following objectives :

1. To make selective admission to higher education and thereby make available the existing limited facilities in a better and effective manner to the deserving ones which will help raise the standard of education and research.
2. With deserving and serious students in higher education, it will be possible to create a better educational climate.
3. To train a larger number of students after the + 2 stage in different vocations so that the absorbing units get trained personnel.
4. With trained personnel in different vocations, productivity will help boost the economy of the country.

Areas of Delinking Degrees from Jobs

Delinking should be declared for the following non-technical areas :

1. Clerical jobs in Banks, Government offices including Railways, Private and Autonomous organisations.
2. Salesmanship, propagators and promoters in all organisations
3. Hotel management, tourism, etc.
4. Telephone operators, Technicians, etc.

If delinking is done in the above areas, a large number of students can be diverted from the higher educational channel

Education for Contemporary India

The aim of education should be imparting moral and spiritual values to young students. Knowledge alone is not enough. Education is not preparation for life but participation in life. It must be a way of life. Importance must be given to tolerance and co-existence, education for citizenship, national integration and international understanding.

So far, education has aimed at teaching the 3 R's. But hereafter the emphasis of education should be on the development of 3 H's, i.e. Head, Hand and Heart. While academic input develops the Head, the vocational input would develop the Hand and value-oriented education would develop the Heart

Work-oriented Education

Trade, industry, banks and business houses may begin to recruit people at the + 2 stage and expose them to more purposeful courses of study to equip them to shoulder responsibilities that they will be called upon to discharge in the years to come Such courses can also be started in colleges. Students will willingly undergo such specialised courses if they have the assurance of employment.

Curriculum at the college level may be restructured as below.

Part I

Importance may be given to the development of skills in reading, writing and communication. Prose, poetry and drama of the concerned regional language along with a comparative study of other languages may be introduced. Language class can be used to insist on moral and spiritual values. Lessons on patriots and freedom struggle may be introduced. This will help students have the feeling of oneness and national integration. Part I language (regional) can be stopped after the first year of the three-year degree course. In the second and third years major subjects can be taught. Students who want to learn more about the Part I language may take up that language as a major subject in the second and third years.

Part II

English must be considered as the second language in the two-language formula. The suggestions made for Part 1 language may be considered here also.

Part III

Two full years can be used for the study of Part III subjects which may include the following:

1. Major Subject
2. Applied—Job-oriented Course (allied with the major subject)
3. Ancillaries

This can be illustrated by taking Chemistry as the main subject.

1. *Chemistry Main*
2. *Job-oriented Course*—any one of the following may be selected :

i Photography and Cinematography
ii. Agricultural Chemistry
iii. Pharmaceutical and Medical Chemistry
iv Forensic Science
v. Textile Chemistry
vi. Polymer Chemistry
vii. Leather Chemistry
viii. Food Chemistry with Aduteration Analysis
ix. Manufacture of Cosmetics
x. Soil Chemistry
xi. Environmental Chemistry
xii Sugar Chemistry
xiii. Nutrition Chemistry
xiv. Marine Chemistry
xv. Dairy Chemistry
xvi. Water Chemistry
xvii. Environmental Toxicology
xviii Electro Chemistry
xix. Industrial Chemistry
xx. Paper Chemistry
xxi. Plastic Chemistry
xxii. Glass and Ceramics Chemistry
xxiii. Bio-chemistry and Clinical Lab. Technology
xxiv. Analytical Chemistry with Modern Instrumentation
xxv. Soap Chemistry
xxvi. Teaching of Chemistry

The course to be selected depends on the area where the college is located. It also depends on the available resources and the needs of the society.

3. *Ancillaries*

Any two of the following can be selected :

i. Mathematics
ii. Physics
iii. Biology

Here we need not follow the old syllabus. The syllabus must be reoriented as follows .

i. Mathematics for chemists
ii. Physics for chemists
iii. Biology for chemists

Similarly, other ancillaries can be reoriented in such way that they will help students apply their major knowledge in a more specific field. This will enhance the inter-disciplinary approach.

Teaching Methods

There are several teaching methods. The 'how' of teaching much depends on 'what', 'when', 'why', and 'who' of teaching. Given below are a few methods for science teaching :

i. Lecture method
ii. Lecture-notes method
iii. Lecture-demonstration method
iv. Heuristic method
v. Project method
vi. Quiz, seminar, assignment
vii. Group discussion
viii. Programmed instruction
ix. Computer-assisted instruction
x. Field trips
xi. Science fair

Since language teaching is mainly concerned with the development of skills in reading, writing and communication, the method may include seminars, debates, group discussions along with the regular lecture method Almost 75 per cent of the classes must be engaged by students themselves. The teacher must only be a guide and resource person.

For example, in Tamil classes students may be asked to write poems and present them in the class. Prose classes may be in the form of debates and discussions. Dramas can be enacted scene by scene by groups of students and prizes may be given to the best actors and the best composer of poems. This will help them enter the cine field later.

Evaluation

Evaluation must be a continuous process. Every movement of the students must be continuously assessed by the teachers We may follow semester system and internal assessment.

Work-oriented Courses in Colleges

1 Job-oriented Courses in Art
    i. Water colour painting
    ii. Oil painting
    iii. Line art
    iv. Cartooning
    v. Commercial art
    vi. Portrait painting
2. Dress-making—pattern cutting and designing course
3. Interior decoration
4. Beauty care and personality
5. Etiquette and entertaining
6. Flower arranging
7. Poultry-keeping
8. Business management

9. General management
10. Personal management
11. Office management
12. Industrial management
13. Management practice
14. Store-keeping
15. Sales management
16. Marketing management
17. Purchase Officer's course
18. Works management
19. Market research
20. General advertising
21. Copy-writing
22. Private Secretary's course
23. Industrial psychology
24. Effective business letters course
25. Shorthand typing and office procedure
26. Public relations
27. Business training
28. Gardening
29. T.V., radio and film script writing
30. Free lance journalism
31. Short story writing
32. Refrigeration and airconditioning
33. Gas and electric welding
34. Computer engineering
35. Basic electronics
36. Radio, audio and television servicing
37. Plastic technology
38. Textile designing
39. Paper manufacture
40. Ice cream technology
41. Medical representatives
42. Book-keeping and accountancy
43. Labour laws and industrial relations
44. Incometax practices
45. Training for competitive examinations
46. Training in sports and games

Tasks Ahead

For obvious reasons, while providing jobs to all is not possible, it is believed that it may not be difficult to provide jobs to a sizeable number of those admitted to and successful at the vocational courses, if planning is done along the following lines :

> For each revenue division, vocational courses should be identified on the basis of needs as also the facilities available for such courses in the division
>
> For each revenue division, it should be assessed, in consultation with the various employers including industries (private, autonomous and government), as to the probable employment opportunities that are likely to be available in the next three years
>
> Legislation should be made to make it compulsory that employers/industries of all sectors shall recruit their personnel in the given areas only from among those who are successful at the vocational courses. This could be done by a co-ordinating agency, e.g. Employment Exchange.
>
> Adequate facilities for independent business and trades be provided by all the government and autonomous agencies so that those who, after the successful completion of vocational courses, intend to go in for such business, are suitably encouraged
>
> It is difficult to visualise as to how the promotion of self-employment schemes can be a success in the regime which is controlled

by a limited number of giant companies which pose stiff competition for the small scale labour intensive sector

The formulation of education policy in isolation from the prevailing strategies for development would not yield the desired results. What is needed therefore is to design an integrated education—economic policy which can suitably respond to the socio-economic requirements of the country.

Conclusion

The destiny of India is determined within the four walls of the classroom, the destiny of the classroom is determined by the teacher and the destiny of the teachers is determined by their social status So, if we are to make only one reformation in the field of education, it is the uplift of the status of teachers in all respects and make them first class citizens of India.

Freedom and its Relevance to Education : Krishnamurti's Concept

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LIKE many philosophers of the east and the west, Krishnamurti discussed a lot about human freedom. His notions in this direction are uncommon and unique and are different from the traditional thinkers of the world.

Concept of Freedom

From Dostoevsky to Erich Fromm, writers have argued about the concept of freedom and have produced propositions which are quite convincing and evidenceladen. But Krishnamurti points to a different factor in the situation. He says that to be conscious of freedom negates the condition. As he puts it : 'If one says, "I am free", then one is not free'.

This paradox takes us to the heart of Krishnamurti's conception of man, mind and consciousness. With this there is another paradox to note : that although freedom is negated by our becoming conscious of it, it is by being conscious and aware of the modes of bondage that we make possible the experience of true freedom. In this context he is not speaking of the achievement of freedom, for according to him freedom is not something that can be achieved, but can be experienced by becoming aware of the modes of bondage that circumscribe and delimit our lives.

Modes ot Bondage

In order to understand Krishnamurti's notion of freedom, it would be necessary to reckon his ideas about the various modes of bondage.

His insights into the varieties of human bondage are manifold. "To be free", says Krishnamurti, "is not merely to do what you like, or to break away from outward circumstances but to understand the whole problem of dependence". Or again · "Freedom implies the total abnegation and denial of all inward psychological authority".

The idea that authority constrains individual freedom is quite clear, but we are generally inclined to think of that authority as something imposed and that works from without and the idea of the presence of an "inward psychological authority", which dictates our behaviour and thinking and even determines what we feel, see and experience, is another matter.

Modern sociological and psychological studies have clearly disclosed that the techniques of 'conditioning' and 'thought reform' can create in an individual an inward determining authority that directs his behaviour and thinking It has provoked many protests as such techniques have ethical implications of meddling with human mind.

But Krishnamurti's views on conditioning are slightly different He says that conditioning begins in infancy, and all the traditions, beliefs, ideas and even the language, that we acquire from our social and cultural background only serve to frame that inward psychological authority which keeps us in bondage.

To see clearly one must be free from all authority, tradition, fear and thought with its cunning words, states Krishnamurti. The development of language and rational thought is considered to be a great achievement in the history of human development but Krishnamurti considers such things as the root cause of bondage. He says : 'We are lost, we are forlorn because we have accepted words, words ....You are fed with words and you are satisfied with words'. And such satisfaction, he implies, is inauthentic living; it is living in bondage, for the word is not the reality ; the reality lies beyond the reach of words It lies in simply seeing and experiencing, without allowing what is seen and experienced to be dwelt on by thought or interpreted by words. True freedom exists only in the moments of such seeing and experiencing

Besides words, 'memory, the past, expectation and thought, are all involved in a form of human bondage which anybody will acknowledge as such fear Fear arises when the pain and suffering of yesterday are carried over by thought, by expectation, to tomorrow. Or again it arises when memory dwells on pleasure or satisfaction and we fear to either lose it or not being able to enjoy it again' Thus, pleasure, desire, death are things which are closely linked with fear Therefore, to be free in the real sense one has to abandon fear and need not to be victamized by pleasure, desire and death, says Krishnamurti.

Awareness is Freedom

Krishnamurti holds that awareness is the key to the road to freedom. To understand all the modes of dependence which binds us, we need to exercise great intelligence. 'Can you find out whether you are free from authority ?' he asks, and he warns that, 'it needs tremendous inquiry into yourself, great awareness'.

He holds that the quality that characterizes the truly liberated mind is that of 'choiceless awareness'. Awareness arises in the exercise of intelligence but choosing is a function of thought, which involves recognizing a desire. But when one chooses and resolves not to desire it again, it leads to inward division and conflict. To be free from such conflicts one needs to possess 'intelligent choiceless awareness' of one's modes of dependence

Krishnamurti writes · 'If you observe that a mind that depends must be confused, if you know the truth, that a mind that depends inwardly on any authority one creates confusion—if you see that, without asking how to be free of confusion—then, you will cease to depend. Then your mind becomes extraordinarily sensitive and therefore capable of learning and disciplining itself without any form of confusion or authority'.

Any kind of thinking which leads to internal conflict, is an obstacle to freedom. Comparative thinking, for example ; and comparative thinking is created into us when we are very young. We are made to compare ourselves with others. This, according to him, is really a form of aggression and violance Violance is not only killing or hitting somebody, it is in the comparative spirit. Therefore, one needs to find out how to live a life without comparing, which, if led, would lead to an extraordinary life. If you really become aware choicelessly, says Krishnamurti, you will see what it means to live without comparison, never using the words, "I will be".

In Krishnamurti's opinion any kind of ambition is also a barrier to freedom 'The man who is ambitious, spiritually or otherwise, can never be without a problem, because problems cease only when the self is forgotton, when the 'me' is non-existent'. To revolt against the whole tradition of trying to become something is the only true revolution leading to extraordinary freedom, and to cultivate this freedom should be the real function of education

Awakening Possible Through Education

The right kind of education is concerned with individual's freedom, which alone can bring true cooperation with the whole, with the many ; but freedom is not achieved through the pursuit of one's own success. Freedom comes with self-knowledge, when the mind goes above and beyond the hinderences it has created for itself through desiring its own security. It is the function of education to discover all these psychological hinderences and not merely impose upon him new patterns of conduct, new modes of thought Such impositions will never awaken intelligence, creative understanding, but will only further condition the individual.

What is the significance of life ? What are we struggling for ? Are we being educated merely to achieve distinction, to get better jobs and to have wider domination over others ? If these are the objectives of education, then our lives will be shallow and empty, says Krishnamurti. If we are educated only to become scientists or specialists, we are certainly contributing to the destruction and misery of the world

The significance of life cannot be delimited to the production of scientists or specialists. It has much higher significance which can be highlighted through education only. The intelligent revolt which comes with self-knowledge through awareness of one's own thoughts and feelings, is a process which is generated through the right kind of education

Education should encourage the individual to conform to society or to be negatively harmonious with it, but help him to discover the true values which come with unbiased investigation and self-knowledge. Self-expression becomes self-assertion, with all its aggressive and ambitious conflicts. Examples of this sort can be drawn from day-to-day happenings in India today. Education must awaken the capacity to be self-aware and not merely indulge in gratifying self-expression. What is the good of learning if in the process of living we are destroying ourselves ? As we are having almost everyday a series of violent accidents leading to human deaths, there is obviously something radically wrong with our education.

Should education not help us to discover lasting values so that we no longer cling to the old traditions which are completely obsolete in the present social context ? Surely it should help us to break down our regional and social barriers, for they breed antagonism between man and man. The courses of education which lead to building narrow outlook of life resulting in violence, death and destruction, are fultile. Education must bring freedom of thought and lead to self-unity, without which the purpose of education is never fulfilled.

The ignorant man is not to unlearned, but he who does not know himself, says Krishnamurti. He adds, that the learned man is stupid when he relies on books, on knowledge and on authority to give him understanding. True understanding comes only through self-knowledge, which is awareness of one's total psychological process Thus education in the true sense, is the understanding or awareness of oneself, for it is within each one of us that the whole of existence is gathered It is only through the right kind of education that man can deliver himself from fear, pain, authority and out-dated traditional and social values, which often lead to religious stigmas.

Surely, true education is awareness of oneself, which in other words is the freedom of the self

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Impact of Television on Students

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THIS is an era of speed and technology. The solutions to yesterdays problems often become obslete almost before all the people get to know of them. Improved technology and the rapidly expanding techniques of mass communication are confronting educators with the opportunity for a specific revolution in the field of teaching and learning. This form of communication has arrived at a time when the whole pattern of civilization is changing due to the changes in the thinking of people.

The world is being wired for sight and sound. Events in the remotest part of the earth can be instantaneously and fully reported by the broadcast people.

Television and radio are the two mass media that manage to take millions of persons each day to faraway places. Almost anything that can be presented, can be presented on television. It can be used with the same or even more significant efforts than conventional instruction in a number of selected areas. Sound and picture cannot only be transmitted as they originate, they can also be recorded simultaneously for subsequent dissemination or for future reference and later use.

Television in India is showing a lot of programmes to public these days. Since Delhi was the first place where television has been in use for a long time, that is, since its conception, it must have made some impact on the people even if to a small extent. Besides, where the mature enough people or adults can control their television viewing and can control the television viewing habits of small children, it is the adolescents whose television viewing habits become difficult to be controlled.

Hence, an investigation was undertaken to study the impact of television viewing in terms of gain in knowledge, change in opinions and change in the amount of time spent on household and outside activities of the students of the Institute of Home Economics, Delhi (1985) in relation to selected variables.

Objectives

1. To find out the impact of television viewing in terms of gain in knowledge of the students of the Institute of Home Economics, Delhi, 1985, regarding :
    - a. Social problems
    - b Legal problems
    - c Personality development
    - d. Household management
2. To find out the impact of television viewing in terms of change in their opinions regarding :
    - a Family relationships
    - b. Household management
3. To find out the impact of television viewing in terms of change in the amount of time spent by them on household and outside activities
4. To find out the impact of television viewing in terms of gain in knowledge of the students in relation to their :
    - a. Socio-economic status
    - b. Personality dimension—extraversion/introversion
    - c. academic performance
    - d. adaptation to modernity
5. To find out the impact of television viewing in terms of change in their opinions in relation to their :
    - a Socio-economic status
    - b Personality dimension—extraversion/introversion
    - c Academic performance
    - d Adaptation to modernity
6. To find out the impact of television in terms of change in the amount of time spent by them on household and outside activities in relation to their :
    - a. Socio-economic status
    - b. Personality dimension—extraversion/introversion
    - c. Academic performance
    - d Adaptation to modernity

Method

The following steps were taken in conducting the present study.

Selection of Sample

The population of the study consisted of 75 third-year students (1985) of the Institute of Home Economics, Delhi

Construction of the Tool

A check-list was prepared in order to have an idea as to what all programmes were being watched by the respondents. The check-list consisted of various programmes which were being shown on television at that time. These programmes were divided in *six* categories as follows :

1	Film-oriented Programmes	: Such as Chitrahaar, Phool Khiley Hain Gulshan-Gulshan
2.	Educational Programmes	: Such as Darpan, Quiz'

3. Serials : Such as Nukkad, Ek Kahani, Trishna
4. Other Entertainment Programms : Such as plays, youth forum
5. Documentries : Such as those on dowry, family planning, etc.
6. Advertisements

On the basis of these programmes, a final questionnaire having two sections was constructed to collect data from the respondents. The first section aimed at collecting information regarding the selected variables through the following :

1. Socio-economic status : Kuppuswamy's revised scale (1981)
2. Personality dimension : V.S. Shantamani and A. Hafeez's revised standardised scale
3. Academic performance : The previous year's final results
4. Adaptation to modernity : Alex Inkles (1974) short form adapted to Indian conditions

The second section consisted of items on gain in knowledge about social and legal prolems (causes and ill-effects), personality development and household management, change in opinions regarding family relationships and household management, and change in the amount of time spent on household and outside activities as follows :

A. *Gain in Knowledge*	B. *Change in Opinion*	C. *Change in Amount of Time Spent*
I. *Social Problems* (Causes and ill-effects) i. Population explosion ii Dowry iii. Illiteracy iv. Poverty v. Malnutrition vi Inequality of sexes vii Inequality of people viii. Inadequate public amenities	I Family Relationships II Household Management	1 Household Activities II Outside Activities
II *Legal Problems* (Causes and ill-effects) i. Divorce ii. Unauthorized land occupation		
III. *Personality Development*		
IV *Household Management*		

The respondents, on the basis of the scores obtained from them, were categorized for the four variables as shown below :

VARIABLES	CATEGORIES	
Socio-economic status	Upper	Upper-middle
Personality dimension	High extraversion	High introversion
Academic performance	High achievers	Average achievers
Adaptation to modernity	Modern	Conservative

Then, on the basis of the scores obtained from the respondents, they were categorized for the impact of television viewing in terms of gain in knowledge, change in opinions and change in the amount of time spent on other activities as follows :

I. GAIN IN KNOWLEDGE AND CHANGE IN OPINIONS

Extent of Impact	*Range of Scores*
High	0.6—1.0
Low	0.1—0.5
No	0.0—0.0

II. Change in the Amount of Time Spent on Household and Outside Activities

Amount of Time Spent	*Range of Scores*
Decreased to a large extent	0.6—1.0
Decreased to a small extent	0.1—0.5
No change	0.0—0.0

Plan of Analysis

Percentages were calculated to find out the background information and overall impact of television viewing on the respondents Chi-square test was used to test the null hypotheses

Findings

The major findings of the study were as follows '

I BACKGROUND INFORMATION

1. Almost 50 per cent of the respondents fell in each of the two categories of socio-economic status, namely upper and upper middle class.
2. Almost an equal percentage of the respondents fell in both the dimensions of personality, namely high extraversion and high introversion.
3. Majority of the respondents were high achievers.
4. A higher percentage of the respondents were modern rather than conservative.

II. ASPECT-WISE IMPACT OF TELEVISION VIEWING

A. Gain in Knowledge

1 Television viewing made low impact for a little more than 50 per cent of the respondents in terms of gain in knowledge regarding most of the social problems. Only 4-21 per cent of the respondents fell in the category of 'high' impact for all social problems.

2 Regarding both the legal problems television viewing made low impact in terms of gain in knowledge for almost 50 per cent of the respondents

3. Television viewing made 'high' impact for a little less than 50 per cent of the respondents in terms of gain in knowledge regarding personality development.

4. Majority of the respondents reported low impact in terms of gain in knowledge regarding household management.

B. Change in Opinions

1. Television viewing made low impact in terms of change in opinions regarding family relationships for majority of the respondents
2. Television viewing made no impact at all for almost 50 per cent of the respondents in terms of change in opinions regarding household management.

C. Change in the Amount of Time Spent on Other Activities

1 Television viewing made no impact at all for majority of the respondents in terms of change in the amount of time spent on household activities.

2. Majority of the respondents reported that the time spent on outside activities had decreased either to some or to a large extent because of television viewing.

III. ITEMS FOR WHICH HIGH PERCENTAGE OF RESPONDENTS REPORTED HIGH IMPACT

ITEMS	N = 72 %
I. *Gain in Knowledge*	
i. Conversation skill with people through areas of movies (Indian and Foreign)	57
ii. New money-saving schemes	56

II. *Change in Opinions*	
i. Girls should talk frankly with their brothers regarding their personal problems (like marriage and opposite sex)	42
ii. Girls should talk frankly with their parents regarding their personal problems (such as opposite sex, marriage, child birth, those occuring in adolescence in terms of physiological changes)	33
III. *Change in the Amount of Time Spent on Other Activities*	
i Maintaining your other hobbies	35
ii Indulging in indoor games (such as Chess, Cards, Carrom)	35

IV. IMPACT OF TELEVISION VIEWING IN RELATION TO SELECTED VARIABLES

1. There were significant differences in the impact of television viewing for the respondents having varying personality dimensions, as more introverts than extraverts and more extraverts than introverts had gained knowledge about some of the social and legal problems, respectively.

2. There was a significant difference in the impact of television viewing on the respondents having varying academic performances to their credits, as more average achievers had gained knowledge than high achievers regarding some of the social problems.

3. There was a significant difference in the impact of television viewing on the respondents with varying academic performances, as more average achievers than high achievers had changed their opinions regarding household management through television viewing

4. There was a significant difference in the impact of television viewing on the respondents having varying adaptations to modernity, as more conservative than modern students had gained knowledge about most of the social and legal problems through television viewing.

5. There was a significant difference in the impact of television viewing on the respondents having varying adaptations to modernity regarding change in opinions, as more conservative than modern students had changed their opinions regarding household management.

6 There was no significant difference in the impact of television viewing in terms of the gain in knowledge, change in opinions and change in the amount of time spent on household and outside activities of the respondents having varying socio-economic status.

7. There was no significant difference in the impact of television viewing in terms of the change in opinions and change in the amount of time spent on household and outside activities of the respondents having varying personality dimensions.

8 There was no significant difference in the impact of television viewing in terms of the change in the amount of time spent on household and outside activities by the respondents having varying academic performances to their credit.

9. There was no significant difference in the impact of television viewing in terms of the change in the amount of time spent on household and outside activities by the respondents with varying adaptations to modernity.

Discussion

Majority of the respondents were modern, high achievers and from high socio-economic status The probable reasons for this could be that the respondents came from the metropoles of Delhi which is exposed to continuous changes and advancements being the Capital of the nation. Hence, the people tend to be modern in their outlook.

Besides, the sample included 75 students out of which 60 students came from the 'honours' courses which are only accessible to students having performed well academically earlier Hence, the sample had most of the high achievers

Home Science in Delhi is quite an expensive education, so most of the students taking up this course come from well-to-do families. This could account for the majority of the respondents coming from high socio-economic status

The findings also revealed that the students gained more knowledge about personality development (more about conversation skill than any other items) than social and legal problems and household management. The reason for this could be that since the sample had girls from a college of Delhi, which is a big metropolitan and the Capital of the Nation, people there tend to be very conscious about the development of their personality because of the continuous changes occuring in the society So the respondents paid more attention to the aspects dealing with personality development being shown on television.

The impact of television viewing on the respondents in terms of change in their opinions was not felt much probably because opinions which fall in the affective domain are not changed as education. Opinions have deep emotional roots, so many repeated experiences are needed to change them. So if such programmes were shown on television repeatedly which would bring about some desirable changes in the opinions of the people regarding such aspects as family relationships and household management, television could claim to be proving useful in changing people for the better. The time spent on household activities remained the same while that spent on outside activities decreased to some extent. This could be because people felt reluctant to go about their outside activities while their favourite television programmes were going on, while they could do their household work even while watching television.

It was seen that television viewing had more impact on introverts, average achievers and conservative students than extraverts, high achievers and modern students, in terms of change in opinions and gain in knowledge. This could be probably because the respondents falling in the former category found more to learn from television programmes than the latter category teleprobably knew what was being shown on who vision.

So television programmes should be prepared in such a way that they cater to all the categories of masses like youth, children, adults and old men and women and at the same time people should be taught to watch television discriminatively so that it really proves a versatile medium of mass entertainment and education.

Socially Useful Productive Work

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THE concept of socially useful productive work is based on the principle of Learning Through Work and Social Service. The history of this principle is very old

> "In the traditional indigenous education systems, which were replaced by the modern forms of education, organized learning was interwoven with the socialization process. Individuals learnt from peers and through responsible participation in work and communal activities Work experience was an indispensable medium of education. Attitude towards both learning and work was formed simultaneously.
>
> The modern education systems interrupted the work education system by removing the act of learning from the context of action. Education and productive work have now to be reestablished in a new combination and in a social context in which science and technology have an increasingly important role" (IBE, 1979).

Background

Mahatma Gandhi laid stress on this principle. Based on the ideas of Mahatma Gandhi, the concept of Basic Education emerged. It stressed education through work and service. The work was to be craft work. The teaching of various subjects was to be correlated with the craft subject. This craft work was expected to provide finance to the students and to the school. Due to various reasons this concept could not make much headway.

The Secondary Education Commission (1952-53) did not accept Basic Education, but stressed craft work as a separate subject. It said : "By working with the hand, the adolescent learns the dignity of labour and experiences the joy of doing constructive work. There is no greater educative medium than making with efficiency and integrity, things of utility and beauty. It trains practical aptitudes, facilitates clarity of thinking, gives chances for co-operative work and thus enriches the entire personality" (p.88).

The Commission recommended introduction of craft and productive work at the middle school stage and diversified vocational courses at the secondary stage, so that students at the end of the secondary stage could join vocations or technical institutions for further training At the middle school stage locally available materials were to be used. At the high school stage the standard of craft teaching should be such high that a high school passed student could support himself or herself by pursuing a particular craft. The Commission suggested appointment of part-time craft teachers for one or more than one school. On the basis of the recommendations of this Commission, craft subjects were introduced in some schools. In Orissa, craft subject was an optional subject.

Later, the Kothari Education Commission (1964-66), suggested teaching of Work Experience as an integrated part of the school curriculum. The Commission stated that Work Experience was a redefinition of Gandhiji's educational thinking in terms of a society on the road to industrialisation (p.14). The Secondary Education Commission had suggested craft work from the middle school level, but the Kothari Commission suggested Work Experience to be introduced from the Primary level. According to this Commission, a well-organised Work Experience programme could provide some earning for the students in cash or kind. The Commission defined Work Experience as participation in productive work in the school, in the home, in a workshop, on a farm, in a factory or in any other productive situation (p. 13).

The Commission also suggested Social Service to be an integral part of the curriculum. The Board of Secondary Education, Orissa, remodelled its syllabus to include Work Experience. But the concept could not materialise fully not only in Orissa and also in other parts of the country in various stages of education—primary, middle and secondary. After ten years, a new Committee suggested replacement of the Work Experience and Social Service concepts by the Concept of Socially Useful Productive Work

Conceptual Improvement

The Concept of Socially Useful Productive Work is an improvement over Work Experience, suggested by the Kothari Commission. In 1977, the Government of India appointed two Committees to review education for the ten year school and for the plus two programme. The Committee for the Ten-year School Curriculum was headed by Ishwarbhai Patel and that for the plus two course by Malcom S. Adishesiah. Both the Committees suggested introduction of Socially Useful Productive Work (SUPW), instead of Work Experience.

What is SUPW ?

Socially Useful Productive Work (SUPW) purposive, meaningful, manual work resulting in either goods or services which are meaningful to the community. This concept is different from the concept of Work Experience. Socially Useful Productive Work Experience which is socially useful. This experience includes work and social service.

Aim

SUPW aims "provide children with opportunities of participating in social and economic activities inside and outside the classroom, enabling them to understand scientific principles and processes involved in different types of work and in the setting in which they are found in the physical and social environment".

Objectives

The objectives of SUPW, according to the Patel Committee, are :

1. To prepare pupils to practise and perform manual work individually and collectively ;
2. To acquaint children with the world of work and services to the community and develop in them a sense of respect for manual workers ;
3. To develop a desire to be useful members of society and contribute their best to the common good ;
4. To inculcate positive attitudes of team work and socially desirable values like self-reliance, dignity of labour, tolerance, co-operation, sympathy and helpfulness ;
5. To help in understanding the principles involved in the various forms of work;
6. To lead children to participate increasingly in productive work as they go from one stage of education to another.

Phases of SUPW

There are three phases of Socially Useful Productive Work. They are :

1. Study of the world of work through observation and enquiry.
2. Experimentation with materials, tools and techniques
3. Work practice.

While the study of the world of work covers objectives 2, 3, 4 and 5, experimentation and work practice covers objectives 1 and 2.

Work Situations

According to the Committee, SUPW activities could be undertaken in six areas as follows :

1. Health and hygiene
2. Food
3. Shelter
4. Clothing
5. Culture and recreation
6. Community work and social service

There were to be certain common activities and certain work practice situations. The common activities consisted of environmental studies and experimentation with materials, tools and techniques At Classes VIII-X, two project reports were to be submitted as part of partial requirement for environment studies. Experimentation was to be related to craft/services These craft/services were categorised as main and subsidiary ones Work practice was to consist of one main craft/service and one or more than one subsidiary craft/service. The main craft could be agriculture, horticulture, animal husbandary, sericulture, etc. and the subsidiary craft could be pot culture, bee-keeping, book craft, spinning, weaving, stitching, knitting, cane and bamboo work, maintenance of compost pits, etc

Teachers for SUPW

The Committee recommended special SUPW teachers. If even recommended special SUPW teachers for single-section primary schools. These teachers could be part-time or full-time teachers. They were to be trained by the State agencies

Position of SUPW in School Curriculum

The Patel Committee recommended 17 per cent weightage for SUPW at the secondary and higher primary school stages and 20 per cent at the lower primary stages. The weightage, however, varied from State to State The Board of Secondary Education, Orissa, suggested eight periods of SUPW per week. In Orissa there was no provision for SUPW in primary classes till 1986. The Board syllabus was not put into action by most of the high schools. Analysis of the grades of the students in the Annual High School Certificate Examination (1984) revealed that 25 per cent of them had received grades in SUPW without having to attend any SUPW class. Students from two schools reported sale of SUPW products but the money so realized was not distributed among students but kept in the school fund Rajput (1981) has described a better situation in Madhya Pradesh. The school children, as reported in the study, produced chalk sticks and tatt-pattis (jute matting) and could earn Rs. 2.40p per day per child The scheme was in operation in 317 centres

New Education Policy and SUPW

The New Education Policy does not use the term SUPW. Instead, it mentions 'Work Experience'. On the position of Work Experience, it says .

> "Work experience, viewed as purposive and meaningful manual work, organised as an integral part of the learning process and resulting in either goods or services useful to the community, is considered as an essential component at all stages of education, to be provided through well-structured and graded programmes. It would comprise activities in accord with the interests, abilities and needs of students, the level of skills and knowledge to be upgraded with the stages of education. This experience would be helpful on his entry into the workforce. Prevocational programmes provided at the lower secondary stage will also facilitate the choice of the vocational courses at the higher secondary stage".

Making the System Work

The Patel Committee has suggested provision of special teachers for SUPW. The NCERT's National Curriculum for Primary and Secondary Education (1985) suggests that all teachers should work as SUPW/Work Experience teachers. It further suggests involvement of experts from the community "Work Experience (WE)/Socially Useful Productive Work (SUPW) should inculcate in the learners respect for manual work, values like self-reliance, co-operativeness, preservance, helpfulness, inquisitiveness, work ethics and attitudes conducive to team work. It should also aim at developing knowledge, understanding, skills, attitudes and values related to productive work.

It sohuld enable the child to conceptualize his role in productive situations, understand the facts, terms, principles involved in the various forms of work, know the sources of raw materials, understand the use of tools and equipment in production and service processes, and acquire skills required in a technologically advancing society. The programme should also help the child in acquiring skills required for identifying, selecting, procuring, arranging and developing innovative methods and materials , observing, manipulating and participating in work practices thereby enhancing his productive efficiency".

The new Curriculum Frame Work prepared by the National Council of Educational Research and Training, in the year 1986, proposes teaching of SUPW or Work Experience at various stages of school education. It has suggested 20 per cent weightage for the lower primary stage (Classes I-V), 12 per cent weightage for the upper primary stage (Classes VI-VIII) and 12 per cent weightage for the secondary stage (Classes IX-X). These stages are the newly accepted pattern in the New Education Policy of 1986.

Some SUPW Activities

In 1986, an inservice programme for school heads and school sub-inspectors was organised. The participants were given the following suggestions ·

Social Service Activities . Cleaning of school compound, renovation of tank, road construction, supply of drinking water, in the weekly market, nursing the patients in hospital, building house for the poor, cleaning the market place, plantation, cleaning the hospital/dispensary compound, beautification of the school, etc

Study of Work Situations: Nursing the patients, washing of clothes, weaving, pot-making, carpentry, tailoring, fishing, floral decoration, farming, poultry, dairy farming, basket-making, paperbag-making, book-binding, photography, press, cycle repairing, motor garage work, fruit preservation, photo binding, jute work, fibre work, bee-keeping, making, bamboo work, cane work, radio repairing, television repairing, electrical wiring, brick-making, cloth dyeing, soil conservation, silk processing, mushroom cultivation, type writing, etc.

Guest Talks : Freedom fighters, carpenters, fishermen, washermen, women experts in floral decoration, doctors, veterinary doctors, black smiths, gold smiths, farmer, potters, weavers, nurses, book-binders, paper packet-makers, photographers, photo binders, oil men, artists, cycle repairers, motor mechanics, live stock inspectors, fisheries extension officers, agriculture extension officers, malaria inspectors, industrialists, artists, radio repairers, television repairers, etc.

These activities could be undertaken without provision of special teachers for SUPW. SUPW should be part of the duty of all teachers. The guest talks suggested above may help accelerate social development and abolition of casteism. For instance, if washermen are invited to schools to give lectures on the process of washing, headmasters and headmistresses would have to introduce them to the students with the respect due to the guest speakers. This will help in developing respect for manual labour in the minds of students.

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Rationalisation of Demand and Supply of Teachers

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IN the post-Independence period, there has been phenomenal expansion of educational facilities at all levels in the country. During the period 1950-83, the number of educational institutions increased from 0.2 million to 0.7 million, yielding a compound growth rate of 2.8 per cent per annum The number of student population increased from 28 million in 1950-51 to 114 million in 1982-83, registering an increase of 5 5 per cent per annum. There has been quantitative expansion of facilities for teacher training to meet the increasing demand of teachers at the elementary and secondary levels. But the number of teacher training institutions has increased haphazardly without any manpower planning.

There are, at present, about 589 secondary and 1162 elementary teacher training institutions in the country. Since the growth of these institutions has been haphazard, there is a need to review the situation whether the product from these institutions is adequate to meet the growing demand of teachers or it is in excess of the demand

Teacher Requirements

The requirement for school teachers during a given period of time is determined by a number of factors—number of pupils, accepted norms for overage class size, number of optional subjects in the curriculum, teaching hours offered to pupils and the school leaving age. The number of pupils depends upon the demographic characteristics of the population. Besides, it depends on whether the state enforces compulsory education up to a particular level.

This paper tends to highlight the training capacity of our teacher training institutions and annual additional requirement of teachers at the primary, middle and secondary levels. The data with regard to the requirement of teachers during the period 1970-71 to 1983-84 are presented in Table 1.

Table 1 reveals that there are, at present, more than 3 3 million teachers working at the primary, middle and secondary levels. The number of primary teachers rose from 10, 59, 950 in 1970-71 to 14,01,878 in 1983-84, registering an increase of 32.2 per cent. Similarly, the number of middle and secondary school teachers increased from 6,37,560 to 8,68,122 and 6,29,200 to 10,32,000, respectively during the period under reference. The percentage increase in the middle and secondary stages was 36.1 and 64.1, respectively.

Percentages given in Table 1 reflect a gross increase in the number of teachers at the primary, middle and secondary levels over a period of 13 years. They do not provide annual rate of growth in demand of these different categories of teachers. The annual rate of growth in demand of these teachers comes to approximately 2.3, 2.5 and 3.9 per cent for primary, middle and secondary teachers, respectively.

TABLE 1

Number of Teachers in Primary, Middle and Secondary Schools (1970-71 to 1983-84)

Year	Number of Primary Teachers	Percentage Increase in the Number of Primary Teachers	Number of Middle School Teachers	Percentage Increase in the Number of Middle School Teachers	Number of Secondary Teachers	Percentage Increase in the Number of Secondary Teachers	Total
1970-71	10,59,950		6,37,560		6,29,200		23,26,710
1971-72	10,97,995		6,65,597		6,57,946		24,21,538
1972-73	11,50,805		6,92,263		6,84,865		25,27,933
1973-74	11,68,363		7,04,573		6,48,049		25,20,985
1974-75	12,31,622		7,58,210		7,39,641		27,29,473
1975-76	12,47,553		7,77,928		7,58,561		27,84,042
1976-77	12,58,578		7,93,395		7,74,060		28,26,033
1977-78	12,67,193		8,06,233		7,98,110		28,71,536
1978-79	12,96,639		8,25,146		8,18,507		29,40,292
1979-80	13,28,700		8,35,608		8,69,842		30,34,150
1980-81	13,45,376		8,30,649		9,01,329		30,77,354
1981-82	13,65,432		8,46,772		9,41,824		31,54,028
1982-83	13,89,856		8,56,389		9,93,115		32,39,360
1983-84	14,0,1878		8,68,122		10,32,000		33,02,000
		32.2		36.1		64.1	

A number of teachers retire every year. Assuming that the annual replacement rate of teachers at the primary, middle and secondary levels is two per cent, the net demand for additional teachers of the said categories is as given in Table 2.

TABLE 2

Additional Number of Teachers Required
1971-72 to 1983-84

Year	Primary (P)	Middle (M)	Secondary (S)
1971-72	59,244	40,779	41,330
1972-73	74,770	39,978	40,078
1973-74	40,574	26,155	23,119
1974-75	86,626	67,728	1,04,354
1975-76	40,583	34,882	33,713
1976-77	35,976	31,026	30,670
1977-78	33,787	20,706	39,531
1978-79	54,790	35,038	36,359
1979-80	57,994	26,965	67,705
1980-81	43,250	11,753	48,884
1981-82	46,963	32,736	58,522
1982-83	51,234	26,552	70,127
1983-84	39,819	28,860	58,747
Annual Average	31,200	32,550	50,256

Table 2 reveals that the country needs around 51,000 additional primary. teachers, 32,000 middle and 50,000 secondary teachers at the existing rate of expansion of educational facilities.

Gap Between Output and Demand for Teachers

Elementary Teachers

The number of elementary and secondary teachers and also elementary and secondary teacher training institutions has been increasing to meet the demand for additional teachers. In 1979-80, there were about 945 elementary teacher training institutions in the country with an enrolment of 87,382. There are, at present, about 1162 elementary teacher training institutions. The enrolment in these institutions may not be less than 1,00,000. The duration of the teacher training programme is not the same in all the states and union territories. It varies from one to two years. Taking into consideration both types of institutions with one-year and two-year programme of elementary education, it can safely be assumed that the annual availability of trained teachers from 1162 elementary teacher training institutions may not be less than 85,000.

There is an annual demand of 51,000 primary and 32,000 middle school teachers. Some of the states are recruiting trained graduate teachers in middle schools. There are, at present, about 0.2 million unemployed trained teachers seeking employment as elementary teachers on the live registers of the employment exchanges in the country. This reflects that the output of elementary teachers exceeds the demand slightly Because of this, some state governments closed their pre-service elementary teacher training institutions and diverted the facilities to inservice education during the last few years.

The present rate of output of primary and middle school teachers may not be excessive in relation to the targets of the Seventh Five-year Plan (1985-1990). The Government of India, during this period, proposes to enrol 25 million additional children in formal schools (ten million in Classes I-V and 15 million in Classes VI-VIII) in order to achieve universal primary education by 1990. On the basis of the teacher-pupil ratio of 1:40 in Classes I to V and 1.35 in Classes VI to VIII, 0.97 million teachers would be needed during the Seventh Plan (0.68 million for additional enrolment and 0.29 million for replacement calculated at the rate of two per cent per annum). The total availability of trained elementary teachers in the Seventh Five-year Plan from existing sources may be about 0.7 million (0.4 million from existing elementary teacher training institutions, 0.2 million unemployed teachers and 0 1 million from secondary teacher training institutions). Of the 0.2 million unemployed elementary teachers, it is difficult to know whether all of them are unemployed or whether some of them are employed but registered with the employment exchanges for better jobs. There is a need for creating additional facilities for training of 0.27 million elementary teachers during the Seventh Five-year Plan.

Secondary Teachers

In 1979-80, there were 338 secondary teacher training institutions with a total enrolment of 56,339. The numebr of these institutions has now increased to 589. It is estimated that enrolment in these 589 institutions may not be less than 80,000. The demand for secondary teachers during the year 1983-84 was 58,747 as indicated in Table 2. This reflects that the supply of trained teachers exceeds the demand by approximately 40 per cent. A number of universities in the country, such as Annamalai and Kohlapur, have introduced B Ed. programme through correspondence. The turn-out from these universities is quite substantial. The supply of trained teachers from these universities has further increased the gap between the supply of and the demand for teachers. The number of unemployed trained secondary teachers on the live registers of employment exchanges was 1,80,000 on 31 December, 1983.

Measures Needed to Check Over-supply of Teachers

Over-supply of teachers in relation to demand is a national wastage in terms of wastage of economic and human resources. There is a need to avoid this national wastage by regulating the output of teachers to the demand. Each state should assess the need for different categories of teachers every year and recruit them first and then depute them for training. Alternatively, the intake capacity of the existing secondary teacher training institutions may be reduced by 30 to 40 per cent for three years The position may be reviewed thereafter. Correspondence courses which provide B.Ed. degree to fresh graduates and post-graduates may be discontinued as these courses, inter-alia, are aggravating the problem of unemployment among trained graduates and post-graduate teachers.

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To Learn How to Learn

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STUDYING is usually associated with school work, but it happens in many situation. A teacher is studying when he prepares his class plan, a scientist when he examines the results of an experiment, a lawyer when he prepares his case, a salesman when he tries to understand and learns about his product, and so on.

Studying requires time spent in a deliberate attempt to learn. This time may be spent efficiently or inefficiently, and it may result in effective or ineffective learning. One of the problems that most troubles some senior class freshmen is that they have not learned to study well. They are unable to keep pace with the sharply increased demand for study that they encounter in the senior classes This is particularly true of students who in lower classes were able to pick up information quickly without a systematic plan for acquiring it. As a result, they did not learn to arrange their study time efficiently. So it is important for every senior class student to learn to study efficiently and well.

The principles of learning can work for or against the learner. The important thing is to study under conditions that maximize the positive effects and minimize the negative effects.

Environment for Study

Where one studies has an important effect on his efficiency because the location and all of its characteristics are stimuli.

The first rule is to have a place set aside for studying and only for study. It may be a corner of a bed-room, or the kitchen table. It should not be the place where one works on stamp collection, listens to music, or daydreams. When one goes to his study area, he should begin studying immediately and resist the temptation to do other things.

The second rule is to leave the study place if he finds that he is not studying. If he is daydreaming or falling asleep, he should get up and take a short break. When he returns, he should begin studying immediately.

The third rule is to minimize distractions. A picture of one's friend or a calender on the wall in front is likely to be a stimulus for some thing else other than studying.

These rules will help students make the most of their study time They will find that they can cover a given amount of material in less time than they would spend otherwise.

Programmed Learning

There is a study method that takes maximum advantage of the principles of preparation for learning. It is called the SQ3R (S-Q-R-R-R) method—Survey, Question, Read, Recite, and Review. It takes practice to learn the method, but it can result in much better and faster learning. Moreover, while one is practising it, he is also doing his regular study with increased efficiency. Consider the steps of studying by this method.

1. *Survey*

Before reading an assignment, one should look it over quickly but carefully. He should then read the section headings to get a general idea of what the chapter is about, read the summary and introduction if the chapter has them, read a few sentences at the beginnings and ends of paragraphs, and make notes of new words, terms and that ideas that seem to be important. These steps prepare one for detailed studying.

2. *Question*

After the Survey, one should pause to think about what he knows and what he wants to learn about the material surveyed. He should ask himself questions about the chapter, the questions that he intends to explore further : What does author mean by this term ? What is the author's point of view ? What is the evidence for this statement ? How do the sub-topics fit together ? Do I agree with the author ? It is usually helpful to write down a set of questions to guide one's continuing study. It might develop one's own shorthand and observations to save time. Having questioned the material, one has answers to look for and he has developed a set of concepts within which to fit the ideas he will be studying.

3. *Read*

By surveying and questioning, one has prepared oneself to keep one's mind effectively at work while reading. Now he should search for answers to his questions. If necessary, he should re-formulate the questions as he goes along. He should form a mental outline of the material, and jot down notes. If some thing is puzzling, he should make a note of the problem and the page. If he does not understand a work, he should make a note of it and refer to a dictionary for the definition. He should relate the ideas he remembers to what he already knows and to his own experience As he becomes skilled, he will be able to read and study quickly, slowing down only when the material is difficult or because he needs to think carefully about it

4. *Recite*

Trying this experiment, one should close one's book, and write down what he considers the most important points made thus far about effective study methods He should then re-read the sections dealing with steps 1 to 3 of the SQ3R method. He should put check-mark next to each correct statement, crossing out incorrect statements. Now he should make a list of these points emphasized in the book which he did not include in his list of most important points Now putting both the book and the notes aside, he should try to reconstruct the points in his mind. Checking again with the book and his notes, how well does he feel. He material better now than before he began writing down his points.

The process of recalling what one has read in called recitation. It is wise to write what one recalls because writing forces one to state things completely without glossing over confusing points. One may prefer to make questions like those that the teacher is likely to use in tests or in class discussions, and then write answers to them. This improves the effectiveness of study

5 *Review*

The last step is review of the material. The recitation phase will probably point up some parts of the assignment that one did not understand Reviewing provides a chance to check them out again This last look will remind one of the main points and increase the liklihood of one remembering them.

And, mind you, every one is equally intelligent The only important thing is how well one can use it. One should try this method to find the difference.

National and Regional Identities in India : Historical Perspective

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MAN'S relationship with society and his physical surroundings operate at many levels—not always in consonance with each other Hence the problem of right ordering of loyalties and re-conciliation between conflicting demands of various groups to which he owes allegiance simultaneously

More often than not the two terms—National and Regional—are used as antithetical to each other, assuming that they demand from their members unalloyed loyalty. This situation is the product of certain facets of our country's historical development and therefore can best be understood in its historical perspective alone

The term 'identity' is drawn from the field of Freudian psychology where it is used in connection with an individual's adaptation to the family situation (or as a crisis in individual's growth during adolescence as demonstrated by Erickson).

Even when transferred to social life in general as well—not only with reference to individual but a group as a whole—the connotation of the term remains more or less the same, i e, to what extent an individual accepts a group's demands on him by way of his abiding by its pattern and norms of behaviour or ideals of life. The problem assumes a tortuous course only when the individual finds it difficult to accept different norms prescribed by different groups to which he owes loyalty as a result of a simple symbiotic situation and when these demands force him to behave differently in the same or similar situations.

There would be many a base for an individual's loyalty to a group—geographical, historical, political, economic, social, linguistic ideological professional, and so on. Not that the above noted factors—many more could be added to the list—operate independently of each other. In certain situations they may actually combine. But in any case, the problem arises only when there is some gap in between an individual and the group

So when we talk of region vs. nation, we are only highlighting the geographical/cultural facet of the issue

Nation or for that matter even a region's pattern of life or culture develops only as a result of historical process. The process is positively determined by the fulfilment of the three-fold conditions—a people, a common land and a common (group) mind. The third element in the above trio is the most important one. Different tribes living in the same territory may retain their identity inspite of their occupying the same territory for fairly long time. The term 'nation' itself is elusive. Sometimes it is used for a group of people claiming to have the same ethnic origin (Great Han, Pan-Islam, Pure Nordic, etc). It may also refer to a common set of religious beliefs (i.e. Pan-Islam, Christian Civilization, Hindu Ethos, Buddhist temperament are some typical usages in this sense). At still other level, unity of the language may be the major factor in creating this feeling of oneness. When a South Indian talks of Hindi domination, he is practically using the same vocabulary which was used by Muslim League in pre-partition days—Hindu domination. However, the sin qua non of a nation is a heritage of a common shared past and a belief in common future Logically, too, present is non-existent, as Nagarjun long ago pointed out

Shivaji led the movement for Hindvi 'Swaraj' for Maharashtra alone, though he appeared to be a champion of Hindu religion. Later on, when Baji Rao I decided to "strike at the root (so that) branches will fall off themselves", the policy of expansion of so-called Hindu Pad—Padshahi, this intrinsically meant Maratha domination over both Hindu and Muslim rulers alike. Even the great Rana of Mewar with whom Baji Rao I could ill-afford to sit together—was relieved of half a million coins by way of Dakshina to this 'priest' from the South Even during the days of their decline the Maratha power made little distinction between Hindu or Muslim rulers of either North or South. Going further back into earlier periods of Indian history, we meet similar situations Whether the Aryans came to India from outside or they were original inhabitants of the country, the fact remains that their domination by the end of the later Vedic Age (600 B.C.) meant exclusion of certain tribes from the main currents of national life. Not only that, their own division in tribes led to organization of Janapadas—the term originally used in the sense of territory occupied by a particular tribe. This tendency to owe loyalty to smaller groups persisted throughout the whole course of Indian history so that very often we find people belonging to far off regions revolting against the central authority. This phenomenon is so peculiar to our history that early historians of India declared that India as a nation was a mere figment of imagination. Ours is a subcontinent where people of different nationalities live together by pure accident of geography. For all practical purposes, the regions are the real cultural units vibrating with a life and psyche of their own. India's national identity is supposed by many a mere super imposition from above and is the result of India's contact with the West

When the nationalist movement first emerged in India, it was confined to the top elite of the country—the Congress itself starting with hardly 100 delegates—with most of the provinces not represented at all. The Swadeshi Movement in Bengal and the Terrorist Movement confined to Maharashtra, Punjab, Bengal—with U.P. and Bihar having a poor share-were narrow in range and somewhat regional in character. Same was the case in the anti—Brahmin Movement led by the Justice Party in the then presidency of Madras. Leader's status at the national level depended upon his standing in the province. Das and Bose from Bengal, Tilak and Gokhale from Maharashtra, Lajpat Rai from Punjab were eminent national leaders because they had a strong base in their own provinces. The situation, however, went a metamorphic change after Mahatma Gandhi when genuine all-India mass movements for freedom were organised.

As for the beginning of this regional vs. national identity, a typical example is provided by an interesting anecdote about Dr. Sachchidanand Sinha and Sir Ali Imam. While studying in England they went for a trip to France where they met an Ex-ICS fellow. On being informed that they were from Bihar, he was startled and asked them as to where it could be located in the map of India. He, of course, knew of Bengal only (which at that time included the whole of Eastern India). It was this incident that made them determined to have a separate Bihar.

Sindh was separated from Bombay on Muslim pressure so that they could enjoy majority status there.

Orissa native estates (24 in all) were put in the same basket as the two in Bihar and a few in Chhatisgarh region.

Burma which was under cultural influence of India was an administrative unit of Indian Empire for almost a century till 1937 before its final separation from India.

It may be noted, in passing, that Federalism in India is not of Quixotic growth. The old idea of Chakravartin also implied a large degree of autonomy on the part of the subordinate rulers. Further the ruler was not expected to interfere with local customs. Modern Indian Federalism—though not directly derived from Ancient Indian tradition—is based on the assumption that cultural regions/groups of the country have an individuality of their own and the primary loyalty of the Indian people has always been to this homogeneous group for free exercise of their creative powers.

Though the word 'Rashtra' (Nation) (which unfortunately is translated both as 'Quom' and 'Rastra' in Hindi/Urdu) occurs as early as the period of the Rig Veda, it had all along in India only a cultural connotation. The political overtones were wanting all along, before the rise of modern nationalism in India during the late 19th century when the foreign rule was well-settled in this sub-continent and a new set of economic relationships was established with the beginning of the modern form of capitalism in the country.

Manu, the Great Hindu mythical law-giver, has prescribed a most workable formula for the right ordering of loyalties—i.e., one should sacrifice his physical self for the sake of the family, the interests of the latter for the sake of the village and those of the village in the interest of the Janpad—the then known cultural unit and for 'Soul' one must sacrifice the whole world. Soul (Atma) here is used in the sense of Vibhu ('Great'—all encompassing) and not 'Anu' (the tiny 'self' of the individual – the 'mind' of the psychologists). As is well known, the Janpads merged to form Mahajan padas (there were 16 such in the Buddha's time in North India alone—including parts of Maharashtra). If one were to go by the list, one could easily find the roots of modern regionalism in the rise, growth and decline of these 16 Mahajanpadas as politically functional units—some monarchical, others republican.

Ever since the Nanda-Maurya rulers tried and succeeded to a great extent in uniting the whole sub-continent, may be only for a little more than a century, the history of India becomes a history of two contradictory forces—centripetal and centrifugal. Empires are established, flourish for a time and then for lack of what Ibn Khaldun called 'Asbiya' or life force of the nation get dissipated leading to the rise of regional kingdoms and local cultures This is confirmed by what happened after the decline of the Mauryas, Guptas, Khiljis, Tughlaques, Moghals and Marathas. The most interesting feature of this sea-saw affair could be seen in the conflict for possession over Raichur Doab (between the Pallavas and Chalukyas; between Bahmani and Vijayanagar). The fall-out of those age-old conflicts could be seen in modern conflicts over sharing of river waters or claims and counter-claims on territories of one state by the other.

Modern provincial boundaries, be it remembered, are not at all historical in any sense except that they were created by the British for administrative convenience and inherited by independent partners, India and Pakistan. As a matter of fact, they were so constituted to keep them disunited, multilingual units reducing the degree of homogeneity needed for popular upheaval And yet with the rise of modern historiography in India we find volumes written about History of 'Orissa', Bengal 'Subah', Punjab, and so on Syllabus in History over-emphasize this local/regional element so much so that in most southern states history of the district (a purely British creation) is taught along with its geography (again an unnatural division) in primary classes. Even the history of the freedom movement is being dealt with on these lines and so we have the history of Freedom Movement in Bihar, W.P. in Maharashtra or the role of Punjab peasants in India's struggle for freedom, and so on.

Even during the struggle for freedom the nationalist groups, especially the Congress, were for redrawing of the lines of provincial boundaries and as early as 1920's set up provincial Congress Committees on linguistic basis. Ultimately the successor Congress Government itself was forced to consider the demand for linguistic states—a fact accepted in principle in 1951 but in reality not yet fully implemented.

Again it is the historical forces that stood in the way of its acceptance at Shylock's terms, i e. 'a pound of flesh and nothing less, nothing more'. Ethnically and to a great extent linguistically and culturally too, different regions of India may be dominated by a linguistic-cultural group but no boundaries could be so drawn as to make any cultural region free of pollution by other linguistic minorities—(not to talk of its ethnic purity).

Not that economic factors have not contributed to the ever-zealous parochialism in different parts of India—be it 'Bengali Kheda' Movement in Assam or 'Akali Agitation' in the Punjab or struggle for independent Vidarbha, Tamils' right to Gudalur, clamour for more relief to backward Marathwade, Nepali-speaking North Bengal, Oriya-speaking Kharsawanites, destitute Telingana or Konkan and tribal Jharkhand. Behind all these loyalties lurks the shadow of poverty and unemployment and discrimination. Independence raised people's aspirations which 40 years of planned effort have failed to fulfill.

At the moment, go to any part of India and you meet a discordant horde, everyone belongs to a minority or a group, discriminated against. But in principle, even the vocal revolutionary Bengali cannot do away, or/does not like either, with marwari-dominated Bara Bazar, Shiva Sena cannot hope to make Bombay pure—purged of the contaminating Tamils, Malyalis or Gujaratis The Punjabis or Delhiwala cannot do without Bihar or Eastern U.P.'s manual labour nor could the Calcutta docks function without Bihari labourers or the tea gardens of Assam could do without the labourers of Chhotanagpur tribals.

All through the course of Indian history—since the Neolithic times—for which we have evidences, written or otherwise, these two currents of unity and diversity have been flowing simultaneously, sometimes the national current surfaces at the top, at others it is sub-current of the regional. Not that these regional cultures have all along been isolated from each other. There has been mutual give and take and one wonders when one finds a typical Bengali style temple in the heart of Madhya Pradesh at Amarkantak never known to be under Bengal's political sway or typical Oriya style of temple in far off Chamba in Himachal Pradesh and those too constructed hundreds of years ago. One has to travel from extreme north to extreme south to observe how the domination of one architectural style slowly and gradually yields place to the other one.

Now that the conflict has alarming shadow over our national life culminating in the ghastly murder of Mrs. Indira Gandhi, the problem needs a fresh appraisal.

"All love is expansion, all selfishness is contraction. Love is life and selfishness is death", declared Vivekanand almost a century ago But human nature constituted as it is, the question of survival—in gross physical sense of the term, is uppermost in his mind. The moment he feels his existence is in danger—may this fear be all imaginary and not at all a real one, his mind goes off the track and he will stoop to any level to gain what he feels will be helpful in survival. But since these ends cannot be secured by an individual working all alone, he at once seeks the support of whomsoever appears to him to be of any help to him in his endeavour. It is this feeling of insecurity and helplessness that alienates him from the wider society and impels him to seek shelter behind smaller and so more manageable groups be it based on culture, language, race, caste, class, religion, and so on.

Not that we in India alone are facing this problem. Even a much more stable political society of the United Kingdom has to face this problem (in form of demands for greater autonomy for Scotland or preservation of Celtic language of Welsh). Even in the mighty monolithic structure of the Soviet Union cracks appear from time to time in the form of demands for greater autonomy for the constituent units or freedom for trade union activities.

This parochialism is being instilled, may be without being aware of it, by the so-called in-depth regional studies of history. Now in the name of indepth area study the so-called Cambridge School of historians—included are many Indian scholars as well—freedom movement is studied from below in contrast with that 'from above'. Same is the approach of those who contribute to sub-altaran studies.

A typical example of the vicious effect is provided by Elementary school syllabii in History of Maharashtra and Karnataka States wherein Rastrakutas are claimed by both of them as their precursers Even the history of the Fredom Movement jumps off from 1857 to Tilak (in Maharashtra textbooks). The venue of Rama Katha shifts from South to Madhya Pradesh and then to Orissa Aryabhatta belongs simultaneously both to Pataliputra and Kerala, Kautilya to West/South North and as for poor Kalidas he is claimed by North-South-East-West all Obviously there is too much of attempt on the part of modern historians to read the present into the past

That requires men of vision at the top—who could lead the masses out of this trap. One hopes 'Mother India' will have the good fortune of producing another Ahsoka, Akbar or Gandhi to provide the necessary healing touch to the suffering masses—who but for the demogogues pleading for greater freedom for the regions in the name of preserving their identity—would of themselves be loyal first to the nation and then alone to its parts—the regions and not only believe but would actually translate into action Ahsoka's famous dictum, 'समवाय एवं साधु'

DOCUMENT

Teacher Education : The Sussex Model

AHILYA CHARI

THEY do it differently at the Education Department of the University of Sussex in Brighton, England. Their Post-graduate Certificate Course in Education is also of a year's duration after Graduation, equivalent to our B. Ed. courses in India but the structure, philosophy and content are different, in fact very distinctive. Theirs is a school-based programme, a 'partnership model' as they call it.

Induction Programme

The year begins with a two-week induction period for all students. The first week is spent in the University with University Tutors during which time school placements are finalised. The whole of the second week is spent in the Tutorial school where the induction programme is arranged by the General Tutor.

The General Tutor is usually the Head of the School or a very senior and experienced teacher. It is his task to ensure that the student's initial period of induction is made worthwhile. The student is helped to observe the school at work and structure his whole programme ; and to have some contact with the subject he is to teach at school. He also keeps a watch over the student's progress and his evaluation at the end of each term plays a vital part in the student's total assessment.

Each student has a Teacher-Tutor whose role is also pivotal, as we shall see later.

Tutorial School

After the induction, from the third week of the Autumn term students go to their Tutorial schools for three days in the week (Monday, Tuesday, Wednesday). Thursdays and Fridays are spent at the University. Generally each student will go into the school as one of a pair of students from the same discipline. Other PGCE students from different curriculum groups may also be working in the same school.

Students are expected to keep school-term times and not the University term-times. Early in the programme they are given several opportunities to observe their Teacher-Tutors and other teachers of the School. Gradually the student is phased into the teaching situation alongside the Teacher-Tutor and assumes, at an appropriate time, full responsibility for a cross-section of classes, both in age and ability By the end of their period at school students should be undertaking between 2/3 and 3/4 of a normal teaching load. At different points in the year there may be changes in classes but they will have at least one class with whom they are involved the whole year Students are expected to take active part in the out-of-school activities and participate in the entire life of the school apart from the specific teaching they may undertake.

The Teacher-Tutor is the friend and guide in more respects than one He takes full responsibility for the development of his ward both in teaching and in other roles expected of a teacher. It is the case of an experienced teacher working alongside less experienced students in a 'helping' situation. He carefully selects the classes the student will teach in order to let him have a variety of experiences. The student's lesson notes are often the bases of tutorials when the tutor provides an analysis of the teaching, gives constructive feed-back and outlines alternative courses of action.

Furthermore they take major responsibility for the assessment of the student as a practicing teacher. Reports are submitted every term and form a crucial part of the final assessment along with that of the General Tutor.

At the University-end weekly seminars are arranged for Teacher-Tutors and students with University colleagues on the teaching of their subject. Teacher-Tutors enjoy other privileges at the University. They are regarded as Fellows of the University and attend seminars and refresher courses on a regular basis.

Thursdays and Fridays are spent at the University where each student is assigned a Personal Tutor and a Curriculum Tutor. The Personal Tutor is normally responsible for teaching of the educational theory elements of the course through seminars and tutorials. The course content itself is flexible and stems from school experience, so that theory is linked with practice.

The Curriculum Tutors are primarily concerned with preparation of students for teaching a particular discipline at school Along with the Teacher-Tutor they are responsible for the student's work in his or her own curriculum area.

Other Elements

The other elements of the University Courses are the following

(*i*) *The Special Study* · All students engage in a supervised 'Special Study' a substantial piece of work taken in the second term This could be based on the subject discipline under the supervision of the Curriculum Tutor or Teacher-Tutor or both or upon interdisciplinary work It may even be a collective enterprise. It may be school-inspired or arise from a student's personal interests.

(*ii*) *A Course File* : Each student maintains a course document. Before the course starts, students are asked to write a personal autobiography, a reflection on their previous educational experience. The course file is its natural extension, a compilation of the students' work throughout the year. It may include papers prepared for seminars, comments on reading or lectures, group or individual research and the development of teaching sequences in school A time is given for editing the files, for organising the content, for indexing, etc. after which it is to be submitted on a particular date at the end of the course. It is in fact a diary or journal of experience, a critical record of the year's work. This file is seen by the two University Tutors and is assessed. It may also be called for by an External Examiner.

(*iii*) *Alternate Experience* : Students who have successfully completed their teaching experience undertake a range of alternate experiences for the first three weeks of the school's summer term. These may take the following forms :

(a) Teaching experience in another school or in another educational context for example, further education, special education, etc.

(b) An extended special study

(c) An extension of teaching experience in the original tutorial school

(d) Designing teaching and learning materials for use in schools.

(iv) During the rest of the summer term students undertake

—Personal Tutor seminars

—Courses selected from the Option Programme

—Independent study in relation to the Course File and Special Study

—A three-day summer conference on Education

which all students participate in. Some sample conference themes have been Education in a Multiethnic Society; Education in the University, Race, Class and Gender, Classroom Practices and Organisation.

Evaluation

The evaluation of students' performance is also distinctive. There are no grades other than pass/fail. The student is awarded a certificate by the Final Examination Board (which includes experienced examiners) on the basis of the following evidence :

(a) An assessment (in the form of term reports) by Tutors in schools and University. The School plays an important role in evaluating students' progress in teaching and in his involvement in various other aspects of school life.

(b) The Students' Course File.

(c) The Special Study

A Distinctive Philosophy

The structure as described above points to a distinctive philosophy of teacher education that the Sussex model appears to present ·

(i) that students learn the craft of teaching best by working along with experienced colleagues and sharing the life of a school over an extended period ,

(ii) that theory should be based on practice ;

(iii) that the competitive grading of students on a professional course is both invalid and unnecessary.

Also inherent in this philosophy is the responsibility that the Department of Education in a University takes for the improvement of School education in the community. That is the crux of the 'partnership' idea.

The obvious constraint in such an approach is that there would be 'gaps' in the learning of important areas of educational theory (e.g.) History, Philosophy, perhaps even Psychology as these may not get the attention they receive in conventional courses. But to them it is a question of priorities. The Faculty at Sussex are clear that they would want excellence and proficiency in the act of teaching and learning first. They also firmly believe that the University has a special responsibility in bringing about educational changes in the community and that change is most likely to be successful when based upon shared experience and mutual respect.

The 'partnership' idea has its practical expression in several activities; in assisting, for instance, curriculum development, in enabling individual schools to develop managerial training strategies, in placing resources at the disposal of teachers and so on. To them Counselling teachers implies the right to be heard without necessitating the opportunity to mould or influence action. To them there has to exist a two-way flow in which action at the school level informs research and teaching in the Educational area and this in turn may be used to illuminate and identify good practice at the operational level.

What has been described above is only one part of the commitments undertaken by the Education Area of the University of Sussex pertaining to the PGCE course relating to Secondary Teacher Training. The same arrangement prevails in large measure for the training of primary teachers. The philosophy is identical. There is difference in detail.

Apart from this, the University offers an M.A. Programme in Education, six full-time courses and seven part-time. Again the distinctive feature is that the programme is highly flexible and meets the requirements of individuals to help them acquire the necessary vision and skills on their return to Schools or Colleges The entire teaching is seminar-based

The School of Education also offers a variety of short courses geared to specific requirements of teachers, heads of schools, educational administrators, local authority inspectors and so on. These are in consonance with their philosophy of reaching out to the community

Research receives due attention—both personal research of members of the Faculty in areas they are interested in pursuing and publicly funded or contract research that reflect the nation's priorities. But these will need a separate treatment.

The above description is confined to the PGCE programme and is based on a visit to the University of Sussex on discussion with some of their professors and is supported by the literature they had made available.[1]

Obviously no foreign model can be or need be transplanted on to a different social context as ours. The isolation of our Teachers Colleges from the Community is too well known to bear repetition. Nonetheless from the Sussex Model one can draw two or three relevant observations :

(i) that school experience is one of the most useful aspects (and in their judgement *the* most useful) in the training of teachers and deserves very careful consideration in terms of organisation, content, guidance and evaluation ; 'School experiences' being a wider concept than learning just the craft of teaching ,

(ii) that co-operating schools and training colleges could benefit a great deal by being open to each other, willing to share experiences and resources,

(iii) that we need to re-examine our evaluation procedures which at present leave much to be desired.

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1. Research and Teaching at the University of Sussex ' Two Independent Appraisals, 1986
University of Sussex Post-graduate Certificate Course in Education and other Papers.

Indian Situation

Unfortunately the history of teacher education in India shows that there has been no dearth of ideas. It is in the implementation that we lack commitment, a measure of perseverence and an openness of mind that ensures self-critical appraisals from time to time.

The Central Institute of Education, Delhi, did some pioneering work in the early fifties towards a more holistic approach to teacher education enriching the inputs at the Institute and deputing students on two full days in the week to teach at schools in Delhi throughout the year. Perhaps the same system continues now. It would be interesting to know if there has been any evaluation of the practice-teaching component in this arrangement and whether it has been found more worthwhile compared to the '40 lessons' approach of most colleges.

In the sixties, the Regional Colleges of Education had introduced a much wider concept of 'internship in teaching' spread over several weeks, as against the prevalent practice of teaching stray lessons They had also worked hard to develop a network of 'Co-operating' schools and there was a two-way sharing of experiences. Again it would be worthwhile ascertaining whether there has been any study undertaken to evaluate the success of this programme and also how much impact these colleges have had in this aspect upon other training colleges in each region.

The NCTE Curriculum Framework for Teacher Education (1978) had made a beginning in giving a more practical thrust to the content of teacher education in the country. One wonders what impact, if any, this has had so far ; and whether it is not time to evaluate that and build on it further towards a national direction for a teacher education curriculum consistent with the demands of the new education policy.

In sum every decade has found us groping towards a more meaningful expression of our concern for giving teachers the right kind of training but each time we do not seem to look back and learn. We do not tie up our experiences and build on. Our approach has usually been sporadic and fragmentary. It is time academicians who have given some thought to education and its various facets looked at the entire map in a holistic manner and worked out our priorities.

Having done that, it would be healthy a practice to promote several alternate strategies for the training of teachers on the job at selected schools, or working with the community, or as an interdisciplinary activity offered by a University or large College, and so on. A country of our size ought to encourage a many-pronged approach allowing for flexibility and initiative.

Book Reviews

Classroom Control—A Sociological Perspective

Martyn Denscombe, George Allen & Unwin (Publishers) Ltd., London, 1985, pp. VIII+224

CLASSROOM management which is a major concern of almost everyone connected with education, includes the teacher functions variously described as discipline, control, keeping order, motivation and establishing a positive attitude towards learning, among others. Although classroom control may not appear in the school curriculum but in practice it cannot be avoided, because it is one of the most fundamental and pervasive features of school life. Majority of the writings on classroom control are based upon two important assumptions—threats to exercise of classroom control are an educational malaise and what constitutes classroom control is really quite obvious and self-evident. *Class Control—A Sociological Perspective* is a characteristic approach of the Martyn Denscombe which is based on a set of key assumptions. The book includes an introductory note on sociological perspective and seven chapters : The Problem of Classroom Control, Teacher Training, School Organization, Classroom Strategies, The Significance of Noise, Pastoral Guidance and Conclusion. The seventh chapter is followed by Reference and Index

It is clear from the beginning pages of the book that the focus of attention is on secondary rather than primary education. Considerable emphasis is placed on teacher's perceptions of classroom control. In figure 1.1 a number of approaches to classroom control, each stressing different causes and remedies to the problem and each with its particular strengths and weaknesses are given. In this book such perceptions are treated as a vital part of the picture. The book is concerned with the social causes of the phenomenon as the basis for explaining the incidence and nature of control problems. Classroom control concentrates on institutional factor as the context for explaining the actions of teacher and pupils in relation to classroom control In chapters 1,2 and 3 of the book the sociological perspective is used to establish a framework for understanding the phenomenon of classroom control Classroom control is an essential feature of teaching yet, as chapters 1,2 and 3 reveal, it is not something which can be taken for granted. In schools with a low achievement orientation, as is given in chapters 2-4, the control element of the job can take on mammoth proportions and consolidate the major requirements for success as a teacher. The strategies for control are explored fully in chapter 4 and elaborated in chapters 5 and 6, using case study material drawn from Ashton, Beechgrove and Cedars. The three kinds of teacher strategies aimed at classroom control are domination, classwork management and cooptation. From the teacher's point of view, classroom control is not simply an objective condition in the classroom but an impression to be sustained to outsiders. This is why noise (chapter 5) and privacy (chapter 6) have so much significance in a sociological approach which sees classroom control as a socially constructed phenomenon. Privacy would seem to be a vital part of successful teaching in conventional circumstances. It is part and parcel of radical individualism that permeates teaching and which fosters teachers' claims to both autonomy over classroom decisions and claims to professional status (chapter 3). Hidden Pedagogy is an informal phenomenon contained in the culture teaching which provides guidelines for teacher activity and which is the basis for teacher competence (chapter 2).

The purpose of this book is to describe and analyse the reality of classroom control as perceived by those involved. There have been no attempts to suggest how things ought to be, and not too much emphasis on how things might be other than in comparison of open classroom at Cedars with closed classrooms of Ashton and Beechgrove. The last chapter is the conclusion of the whole book, also including recommendations for educational practitioners. These recommendations will be of limited scope. In the light of pupils' view on control, teacher's attitude towards control and sociological analysis conducted in this book, the exercise seems against the tide of social history.

On the whole the book under review is able to provide a sociological picture of classroom control. Special attention is paid to the influence of organizational factors such as resources and teacher accountability on the behaviour of those concerned. Relevent attitudes, motives and experiences of teachers and pupils in response to the social and organizational context of school are also paid due attention. The strategies for classroom control are useful for student-teachers in matters of teaching skills and techniques. These strategies are also valuable to students, teachers, researchers and educational administrators.

PRABHAKAR SINGH

Supervision in Education : Problems and Practices

Daniel Tanner and Laurel Tanner, Macmillan Publishing Company, New York, 1987, pp. 565, Price $ 29.95

SUPERVISION in education is a continuous process of improving instructional work, by way of providing educational leadership to the teachers in schools to find the best possible methods to improve teaching-learning activities. The authors of the book have developed the concept of educational supervision through historical analysis from inspection of teaching to solving classroom problems and issues related to the development of individual/area institutions. The professionalization of supervision goes hand in hand with the professionalization of teacher education It is not only supervisory techniques but also innovative approaches in teaching which influence supervisory functions and teaching practices.

The authors have rightly emphasised the important role of an educational supervisor to establish and administer an inservice education programme for the teacher, though there is no single best way of starting such a programme. An interesting example, as given in the book, may be : "sometimes, a few moments' conversation in the lunchroom between teachers and the principal, or among teachers, can contribute more to the solution of critical educational problems than a formal inservice education activity (a lecture, for example) that is outside the mainstream of teachers' concern". The role of the supervisor in curriculum development and institutional evaluation is very crucial. The criteria for judging the school/school district have been designed in a detailed proforma along with questions and weighted scores with a view to grading the school/schools for purposes of further improvement, especially from the point of view of policy implementation, teacher effectiveness and classroom climate, curriculum development and teaching-learning resources, facilities and services.

In the modern age of science and technology, much depends on the sources and forces for educational improvement. Whatever technological breakthroughs may occur, the quality of life and the effectiveness of an organisation, as suggested in the book, will be determined primarily by the problem-solving capability of the supervisory staff, teachers, students, parents and the community, who make up the organisation.

Well-bound, the book is a useful reference document divided into six parts and further sub-divided into fourteen chapters, with foreward, preface, along with (i) summary, (ii) problems for study and discussion, (iii) notes, and (iv) selected references to each of the chapters and ending with name index and subject index. The book is full with references on research studies, books, and papers on pedagogical, instructional and managerial aspects of educational administration.

The principles and models of supervision have been illustrated and elucidated with tables and diagrams. However, the book has become too heavy with studies on the theories of teaching, learning and curriculum development. Of course, the supervisor in the domain of education has to be fully conversant with teaching-learning methods and techniques, but he is required to be more concerned and better equipped with planning and management techniques of educational enterprise both at the institutional and the area level, so that he may be able to provide leadership both to the headmaster and the teachers

R.S. SHARMA

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GENERAL EDITOR

Academic Journalism — A Rising Phenomenon

SINCE 1984 the World Comparative Education Congress has been organizing a small seminar of editors who edit internationally known journals. From India at least one editor has attended this seminar/workshop almost regularly. In the last seminar a few papers were presented which describe the status, problems and nature of academic journals these editors edit. Fortunately, the UNESCO, Paris, was also represented by the editor, *Prospects*, who detailed his own experiences. Scholarly journals in the West have their own traditions and, irrespective of their circulation, their audience has been international. These well-known journals do not have a very large circulation and yet through their scholarship they have had a perceptible impact the world over. A few characteristics of western academic journals are · separation of editorial functions, reviewing of papers received for publication, printing and circulation. Most of these journals are able to run in profit and the type of problems Indian journals face have no similarities with these academic journals Also, the trend is to have a professor of university to look after a journal. A more recent trend is to produce them through computers and get their discs prepared. In this regard also we have nothing to compare with them.

Similarities or dissimilarities apart, there is a growing desire among academics to know how knowledge is getting disseminated and also what forms this dissemination takes Ordinarily dissemination of information is done more effectively through print or non-print media where the clientele is relatively large. It is also cost-effective. However, in the so-called under-developed countries highly academic issues are either discussed by the academics alone or in esoteric gatherings by a few interested scholars How shall research be disseminated is a question which several countries propose to find out In this connection Chinese have a thing or two to add.

Hoping that many scholars in India would like to have a look at this problem, we publish a few selected papers on the subject presented at the Rio meeting. Our own contributions are merely to give an idea that we too are engaged in this work and perhaps we also have an experience or two to share.

We wish to thank the UNESCO, Paris, for helping us in arranging a seminar of this nature and also our grateful thanks are due to Professor Philip G. Altbach who has been the living spirit behind this entire effort. The NCERT feels obliged to all editors of academic journals whose experiences will enable Indian scholars to have a relook at their own functioning. Juxtaposed with two earlier issues wherein educational journalism has been discussed, this issue of JIE is a step forward in the same direction.

GENERAL EDITOR

The International Dimension of Scholarly Journals

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SCHOLARLY journals are the primary means of communicating knowledge in most fields of knowledge There are about 100,000 scientific and scholarly journals in the world today, reflecting a substantial financial investment as well as the core of a world-wide network of communications Even with advent of data bases and microfiche, the traditional scholarly journal remains at the center of the scientific communication system. By using technological innovations in printing and distribution, journals can be made more efficient and cost effective. Their role, at least for the forseeable future, is assured Scholarly journals face some special problems and challenges in a period characterized by economic constraints, rapid technological change and an increasing internationalization of knowledge. It is important to understand the ways that journals serve their readers and how they function. Understanding scholarly journal is important not only for those responsible for them—editors and publishers—but also for the broader community of readers and writers who rely on the journals for communication. This essay focuses mainly on scholarly journals in the field of education, and particularly on publications in the field of comparative and international education. However, the points made here are relevant to virtually all academic and scholarly journals in the social sciences and humanities—and to some extent in the sciences and technology as well.

While most scholarly journals are published for national academic communities and have little circulation outside the country in which they are published, the minority of internationally circulated publications dominate the knowledge network and are of primary importance.

This paper reflects discussions among twenty editors of scholarly journals in education held as part of the Sixth World Congress of Comparative Education, Rio de Janeiro, Brazil, July 6-10, 1987 The workshop of journal editors was organized by Zaghloul Morsy, Editor of *Prospects* and Philip G. Altbach, Editor of the *Comparative Education Review*. The responsibility for this paper rests entirely with the author

The research trends and orientations of the international journals are reflected in the other journals, which frequently translate articles. Scholarship and research is increasingly international in scope, and knowledge created in one country is quickly circulated worldwide. There is a hierarchy of publications, with the internationally circulated journals at the top.

There are centers and peripheries in the world of journals. The publications that issued in the major industrialized nations tend to have the highest prestige and greatest influence. Thus, the world of journals is unequal and a recognition of these inequalities is necessary. Journals published in the major industrialized nations and in the main world languages (especially English and French) are the most widely circulated and have the highest prestige and most influence. Journals published in English have a particularly important role at the present time, as English serves as the major international language of scholarly communications. It is likely that half, or more, of the world's scholarly journals are in English Journals published in the United States or Britain can rely on a large domestic market for both circulation and as a source of manuscripts. These journals also have direct links with the dominant scientific communities. It must be kept in mind that the large proportion of the world's expenditures for Research and Development are spent in a few key industrialized nations. The norms and values of the academic communities of the major industrialized nations tend to dominate the decision-making of the journals and authors outside the metropolitan centers must generally conform to the norms of scholarship of the centers if they wish to be published. These large internationally circulated publications are the most widely cited and thus are the most influential. Third World academic institutions sometimes insist that their professors publish abroad in order to be promoted and authors themselves frequently will bypass their own journals to publish abroad since they want the increased prestige and value a wider audience

Despite the existence of the metropolitan centers and their powerful role, there has been impressive development in several important parts of the world. The emergence of Latin America, for example, as a large academic community with its own journals and publishers has meant that there are now a number of scholarly journals in Spanish. The *Revista Latinoamericana de Education,* published from Mexico, is a key publisher of educational research from Latin America. India has been called the "research superpower" of the Third World and there are a number of scholarly journals published from India Indian scholars produce a considerable amount of research. It is significant that the *Journal of Indian Education* has published the papers on academic journals presented at the Sixth World Comparative Education Congress A half-dozen additional journals in the field of education publish research and scholarship. While most Indian academic journals are in English, there has been some development of publications in India's various languages as well. There are, of course, many scholarly journals throughout the world which seldom see international circulation, sometimes because the language in which they are published is not widely known outside the country of publication and sometimes because of lack of access to markets overseas

Language

While most nations claim scholarly journals published in their national languages, journals published in English dominate the international knowledge network. This gives the English-language journals a powerful position. In comparative and international education, virtually all of the internationally circulated publications are in English. *Prospects*, published by Unesco in seven language editions, is the major exception to this rule, and as such it has a particularly important role. A few journals, such as the *International Review of Education* and *Canadian and International Education* publish bilingually. The dominance of English has several causes and a number of implications. The large academic communities in the United States, Britain, Canada, India and Australasia account for a significant market for journals and also the most important community of scholars in the field. In addition, the very large library market in the English-speaking countries is a key factor, since academic libraries are among the most important purchasers of journals.

English has become the most commonly used language for international scholarly discourse and it is the most frequently used "second" language. Such key Third World nations as India, Kenya and Nigeria, which have active academic communities and journals of their own, publish mainly in English. It has recently been estimated, for example, that seventy million people in India speak English, making India the second largest English-speaking nation in the world. French is also an important international medium of scholarship and publication, but its influence is limited largely to France, Belgium and the former colonies of these two nations. For Latin America, Spanish is the dominant language of scholarly journals, but it is the case that key research findings frequently appear in English first and are then translated into other languages.

In the field of comparative and international education, the large majority of the internationally circulated journals appear in English There is one journal in French and one in Spanish. There are several journals in Chinese, but their circulation is limited almost exclusively to the Peoples Republic of China There are two journals in German, one published from the Federal Republic of Germany and one from the German Democratic Republic, and one journal in Russian (devoted to comparative higher education and published in Poland with a Spanish translation issued in Cuba) In English, the journals focusing significantly on comparative and international education include *Comparative Education Review, Compare, Comparative Education, International Review of Education* (which also publishes occasional articles in French and German), *Canadian and International Education* (which also accepts articles in French), *European Journal of Education* and in the field of comparative higher education, *Higher Education.*

Because English is the key language of scholarship, this gives journals in English considerable influence and also significant problems. Many authors whose native language is not English submit manuscripts and the problems of editing are considerable, particularly since most journals do not have staff capable of such editing. Further, the journals are dominated by the research paradigms of the major English-speaking academic communities, and those writing with different perspectives sometimes find it difficult to gain acceptance in the major international publications Many authors prefer to publish in English in the hope of obtaining a wider audience and greater recognition This preference works to the disadvantage of publications with only national circulation Authors and editors must balance the importance of international circulation with the need to develop a national academic community, particularly in Third World nations

The bulk of translation in most areas of education and the social sciences is from English to a myriad of other languages. There is relatively little translation in the other direction. This further increases the dominance of the English-language publications, since they become known, through the translation process, in other non-metropolitan languages. The patterns of scholarship and the research paradigms exemplified in these journals gain an audience in other languages while the English-language publications do not benefit from a diversity of perspectives. The English-language journals can control what gets translated since they control the granting of permissions. The current pattern of publication by language reflects global inequalities and is a factors of considerable importance in the international distribution of knowledge.

The Economics of Journals

Scholarly journals cost money to produce. They are, in a sense, small enterprises which collect funds for subscriptions and other fees and spend for editing, printing and distribution. Frequently, journals are precariously financed and this creates problems and sometimes makes it possible for a publication to continue. Indeed, the survival rate for scholarly journals is fairly low. Scholarly journals in education and the social sciences are financed in a variety of ways. In the Third World, most journals are sponsored by academic or governmental institutions, which bear the major costs of the publications. The journals are in such cases frequently sold at subsidized prices. In the Western industrialized nations there is considerable diversity in terms of the financing of journals. In many cases, private publishers are responsible for scholarly journals and expect them to earn a profit. Other journals are sponsored by scholarly organizations which frequently provide a subsidy for publication. A smaller number are published by academic, research or governmental organizations which provide a subsidy In the Eastern European nations, scholarly journals are almost exclusively published by academic or governmental organizations, which have responsibility for financing, This insulates them to some extent from fiscal problems and often permits them to charge modest subscription fees, but it also links them closely to the perspectives of sponsoring agencies.

In recent years, large private sector publishers have gone into the journal "business". They see that academic journals can be the source of profit and that journals, in many ways, are less risky than book publishing since once a journal is established, it can produce a steady income. While these publishers take the financial risk of journal publication, they frequently charge very high prices for subscriptions, effectively eliminating the individual scholar from the market High prices are particularly difficult for Third World libraries and individuals and as a result of the corporate economics of journals, many Third World scholars are effectively denied access to key publications. Some of these publishers, such as Pergamon, Carfax and Butterworths (U.K.), Elsevier and Kluwer (Netherlands) and Sage (United States) own large numbers of journals and frequently charge high prices for subscriptions, targeting the library markets in the industrialized nations for income. It has been estimated by American publishers that a journal with a circulation of around 800 can earn a profit and will be on solid financial ground.

The economics of journal publishing will, of course, differ from country to country depending on labour, composition and printing costs, but there are significant similarities. Academic journals are like cottage industries—they require little capital, are labour-intensive, and frequently provide little if any remuneration for those involved. Typically, journal editors, who are at the heart of the enterprise, receive no remuneration for their work. While the norms of payment to authors and evaluators differ, most scholarly authors earn nothing from their journal publications and even where payment is provided, it is symbolic. If scholarly journals are operated efficiently and without significant payment for the labour involved, they can fairly easily survive financially.

The key to the survival of scholarly journals in most contexts is the academic libary market. Journals typically charge libraries more for subscriptions than individual scholars, arguing that library copies are used by many readers. In this sense, libraries are providing a subsidy to the academic journals. For most Western journals in the social sciences, libraries constitute the bulk of the buyers and without them, the journals would not survive. If journals outside of the major industrial nations can gain access to the North American and Western European library markets, they will have ensured their financial survival. Libraries face serious problems. Budgets have been constrained in recent years There has been a proliferation of scholarly journals and typically library budgets have shifted from book purchases to journal subscriptions Librarians are now quite careful about adding new journals and there is considerable competition among academic journals.

The circulation of scholarly journals is typically low, even for influential internationally-circulated publications. In the field of comparative and international education, many of the journals have 1,000 or fewer subscribers. The larger journals have several thousand subscribers although a journal like *Prospects*, with several language editions, has a larger circulation. It is also the case that several national journals have relatively large circulations—one of the Chinese comparative education publications has more than 5,000 subscribers, and a Yugoslav educational journal also prints 5,000 copies. The circulation of a journal does not, however, necessarily determine its fiscal health. A combination of subscription price, subsidies, the proportion of sales to libraries and of course the cost of production of the journal all determine how a journal survives in an increasingly competitive marketplace.

Journals in education and the social sciences have not adopted the practice of "page charges" which are increasingly common in North American and Western European scientific and medical publications, although the publications sponsored by the American Sociological Association in the United States now charge a fee for processing any manuscript that is submited for publication. "Page charges" are levied to defray the cost of publication and can amount to significant amounts of money. It is assumed that government agencies and foundations, which sponsor much of the scientific research done in the United States, allocate funds for such charges, but these new charges are a burden to individual authors, and especially those from outside the metropole who do not have access to research budgets. While many of the journals will waive the charges in many cases, the advent of page charges is a new and difficult aspect of the culture of scientific publication.

Scholarly journals which control their costs, which have access to library markets and which have circulations in excess of 800 copies can survive in a competitive market. Careful attention to the fiscal aspects of journal publishing is necessary, however, in an era of rapid change and fiscal constraints

The Challenge of the New Technologies

New technological innovations have had a major impact on scholarly journals. These changes create both problems and opportunities and directly affect the international distribution of knowledge While computer-assisted composition can significantly reduce the cost of production for journals with small circulations which have access to desk-top publishing apparatus and therefore permit journals with limited audiences to survive financially, another innovation—the photocopying machine—may have a negative effect. Further, many journals, particularly in the Third World, do not have access to computers and sophisticated software and may be jeopardized in some instances by new technologies. The computer also permits more cost-effective record-keeping, publicity campaigns, and fulfillment (subscriptions and the like), but journals without access to computers may find themselves at a growing disadvantage. On the other hand, journals in countries with low labour costs may be able to continue to function effectively without technological innovations.

The decision on whether to use the new technologies is frequently a difficult one. Even where computers and their sophisticated software are readily available, some uses may be worthwhile, such as in-house desk-top typographic composition. In some instances, however, it might be more cost-effective to contract for outside composition services. Laser-printers are capable of major help to journals in terms of producing high quality composed material, but they might be too expensive or too sophisticated for particular journals. In short, the choice of innovations is complex and should be based on the particular needs of specific journals It is especially difficult in countries such as India or Brazil, where the most sophisticated technologies are available side by side with traditional printing and typesetting mechanisms. In such countries, choices must be based on a careful analysis of the costs involved, both in the long and short terms.

Computer-based technological innovations permit a journal to be a virtually self-contained and independent enterprise. With the exception of printing, most aspects of journal production and development can be done in an editorial office by using micro-computers, desk-top publishing software, and computer-based record-keeping programmes. Articles can be "typeset" using desk-top publishing software, subscriber and financial records can be maintained and manuscripts can be tracked through the use of relatively inexpensive computers. The new technologies are ideally suited for scholarly journals that do not require a great deal of computer power. In addition, in the industrialized nations, the cost of computer-based publishing aids has dropped significantly in recent years.

Printing has also become more economical and easier for academic journals, and here photooffset printing, which is by now diffused throughout the world and is no longer a monopoly of the industrialized nations, makes "short run" journal printing fairly inexpensive Computer-generated typeset material can be inexpensively photographed and printed. While it is seldom economically practical for journals to have their own printing machinery, obtaining suitable printers is not too difficult in most countries.

Several other aspects of the new technology are more problematical for scholarly journals. The most serious threat to scholarly publishing is the widespread use of photocopying machines. Photocopying means that individual users may obtain inexpensive copies of journal articles or entire issues of journals and need not purchase them from the publisher One library copy may serve many users in terms of photocopying. Many countries have grappled with the problem of unauthorized photocopying and there is at present no real solution. Several industrialized nations have attempted to create mechanisms that would charge users for photocopying and provide publishers with the funds collected. The Copyright Clearance Center in the United States is an example of this trend, but the CCC is not as yet fully effective In Sweden, book publishers are provided with funds by the government based on the use of books in libraries. But unauthorized photocopying is widespread throughout the world and it poses a serious threat to journals as well as to book publishers. Indeed, the threat is probably greatest to scholarly journals since they have limited circulation and depend on each subscriber. Copyright laws have been changed to reflecting the new reprographic techniques, but it is fair to say that legal protections have not kept abreast of technological innovations. Photocopying is available in virtually all countries, and Third World nations have frequently been lax about enforcing legal limits. Relatively unrestricted photocopying may benefit individual scholars, particularly in countries which do not have easy access to international journals or in which there are fiscal restrictions, but in the long run the entire journal network is jeopardized by photocopying.

The growth of data bases is another key technological development that has implications for academic journals as well as for scholarship generally On the one hand, data bases such as the ERIC System in the United States permit the user fairly easy access to a very large amount of data. The contents of journals can be placed into data bases and thus made more readily available to scholars. Journals that are included in data bases can become better known. On the other hand, data bases are only as good as the material put into them They are without exception controlled by the industrialized nations and they frequently omit important work that comes from the Third World or from peripheral nations. This means that in some ways the data-bases reinforce the centralization of knowledge. In some fields, data bases are expensive to use. Further, they require costly and complex equipment to gain access, equipment that is manufactured in the industrialized nations. In short, data bases can widen access to knowledge by making it easier to obtain while at the same time centralizing the control of information.

Journals are beginning to experiment with new formats that use contemporary technologies. In the United States, a number of journals in technological and medical sciences are published "on line" so that they are immediately accessible by using computer networks. This not only permits quick circulation of knowledge but circumvents the entire process of traditional printing and distribution. "On line" journals are limited to fields in which very quick dissemination of research results is very important, such as the health sciences, and at present such journals are expensive However, the new technologies exist and are being further developed. Issues of access, of editorial control and dissemination are involved with this innovation In the field of comparative education, one journal is currently produced on microfiche only, the *Journal of International and Comparative Education* recently established by an enterprising Spanish publisher in Barcelona. This journal is published three times a year on microfiche. This format permits the journal to publish up to 1,000 pages of text a year without serious financial problems. The journal not only publishes articles (in three languages—English, French and Spanish) but also new laws relating to education from different countries and it has the capability to publish other material as well It is necessary, of course, to have a microfiche reader to read this journal, and this is a problem for many Third World scholars and libraries, where such readers do not exist or are in very short supply. The latest technological innovation, the CD-ROM disc, which uses laser compact disc technology, may also have major implications for scholarly journals in the coming decade CD-ROM technology is beginning to be widely used for bibliographical purposes in the United States.

The new technologies affect journals in many ways and will increase in importance in the coming period. They are a mixed blessings for scholarly journals. On the one hand, they permit in the industrialized nations considerable cost savings and in fact allow journals with limited circulations to survive. But for the Third World, the new technologies create as many problems as they solve. Access both to the technologies and to the products of technology is often difficult Control over hardware, software, and the products themselves is in the hands of the industrialized nations and is frequently beyond the financial and technological capacities of many Third World nations. In some instances, such as desk-top publishing, the new technologies can decentralize the knowledge distribution network. But in other respects, knowledge becomes more centralized. Data bases, for example, are powerful instruments which are controlled by the industrialized nations.

Third World Difficulties

Scholarly journals in the Third World face special problems. Perhaps the most important is that they function in a worldwide network which is dominated by the publications of the industrialized nations which have the best access to the large library markets in the Western nations, which can compete for the most prestigious authors and which have the most extensive international circulation. Third World journals tend to be newer and they must struggle for acceptance in an increasingly competitive market The fact is that no journal published in the Third World has a wide international circulation or influence in the field of comparative and international education. It is unlikely that Third World representation is much more significant in other fields in education It is also true that scholarship by Third World authors published in Third World journals is not widely cited in the international literature. This is dramatically true for India, where there are at least thirty journals in the field of education, mostly published in English and a large community of scholars and researchers. Indian scholarship is not widely recognized outside of India despite its relevance to the situations in other Third World nations

In a few instances, Third World publications have an important regional role and this is perhaps an opening wedge for a wider international presence The *West African Journal of Education*, the *Caribbean Journal of Education*, the *Bulletin of the Unesco Regional Office for Education in Asia and the Pacific* and the *Revista Latino-americana de Education* all serve important roles in their regions. It is important for Third World journals to pay special attention to increasing their circulation outside their home countries through publicity, interchanges of publications and a heightened consciousness of the importance of journals published in other Third World countries. Key Third World authors, who have access to journals in the industrialized nations must begin to choose their own journals. And scholars from the industrialized nations who do research in the Third World have a special responsibility to publish the results of their research in the region in which it was carried out. As Third World journals begin to publish the very best international scholarship, they will obtain wider recognition.

Third World journals face difficult logistical and production problems If journals wish to compete in the international marketplace of ideas, they must be of international quality in terms of content. While standards of production do not necessarily need to be comparable to publications from the industrialized nations, the quality of printing and paper, as well as of editing, must be of acceptable standard Paper, for example, must conform to international standards of durability. Such paper is frequently difficult to obtain and it is expensive. Editing a journal is a complex process and editorial talent is often rare in the Third World Yet, careful attention must be paid to editing, to appropriate use of language and, most important, to the choice of articles. Professionalism is a key to the editing of a scholarly journal. Production problems are frequently difficult Each of the journals mentioned above is currently publishing late, as each is beset by a variety of production and logistical difficulties. The *West African Journal of Education*, reflecting Nigeria's current economic problems, has not appeared in several years. Authors will not remain loyal to journals that do not appear on time and subscriptions will inevitably lapse. It is difficult for a journal to maintain its influence and even to survive under such circumstances.

It might be relevant for Third World nations to identify several key journals to focus on a regional and international audience and other journals to stress a national community. The national journals can be in indigenous languages and focus on issues relevant mainly to local circumstances. The regional publications will need to be in a language used internationally and will need to pay more attention to issues relevant to a wider audience and to international standards of scholarship. Larger Third World countries, such as Mexico, India or China, can support both national and regional/international publications. In regions like Southeast

Asia or Francophone Africa, it is possible for several nations to organize a regional journal—although the success of regional enterprises of all kinds has not been very favourable. China has, for example, recently established an English-language journal, *China Educational Sciences*, to bring Chinese scholarship in education to a wider international audience. Several of the established Indian journals, such as the *Journal of Higher Education* or the *Journal of Indian Education*, could focus more attention on building an international market.

The odds against a major Third World impact on scholarship in education through journals are considerable. It is difficult to break into the Western library market. It is similarly difficult to get listed in the major bibliographical and citation networks such as the ERIC Systems of the Social Science Citation Index. These networks are controlled by the industrialized nations and mainly serve the needs of scholars and researcher sin these countries. It will also be difficult to break with the habits of decades of looking to the industrialized nations for scholarly leadership and to assume that Third World journals can provide similar leadership. Third World academic institutions and authors have a special responsibility to recognize indigenous publications as legitimate and prestigious. High standards of quality, both in intellectual and production terms, must be maintained as well. Yet, the challenges are not impossible and the goal of ensuring appropriate recognition for Third World scholarship and Third World publications is very important.

Conclusion

Scholarly journals are important enterprises. They do not consume large budgets and are labour-intensive. They are also the primary means of knowledge dissemination in education and the social sciences. Despite the significant technological breakthroughs of recent years, the traditional journal will remain at the center of the dissemination process. Technological innovations in production are taking place, but the basic format of scholarly journals will remain without basic alteration. Academic institutions, libraries, and individual scholars need to understand both the intricacies of scholarly journals and their key role in the academic world. Those responsible for funding higher education and research need especially to be aware of the network of knowledge dissemination. It is not enough to provide funds for research. The means of communicating the results of research must also be taken into consideration.

The international context of knowledge dissemination is also of primary importance, and here too journals play a key role. Knowledge is increasingly international and, in the field of education, research and innovations in one country may be quite relevant elsewhere. There must be means of disseminating information worldwide. In the field of comparative and international education, there are at present perhaps a dozen journals that have an international mission and significant circulation worldwide. Yet, the bulk of these publications are based in the industrialized nations and feature scholars from these nations as their authors. The context of global inequality plays a role in scholarly publication just as it does in world trade. The logic of inequality is strong, but at least in scholarship one can hope for a more idealistic approach, particularly since there are few large economic influences at play.

The fact that twenty journal editors were able to pinpoint problems and discuss possible solutions is a significant step forward. So far, there has been little consciousness of the international responsibilities of journal editors or of the problems faced by scholarly publications in many countries. The editors recognized that they have great responsibility for knowledge dissemination. They also recognized the hierarchy of knowledge that exists and discussed ways of increasing access Possibilities of regional cooperation and of the use of "alternative" networks such as the REDUC bibliographic system which is now functioning for education in Latin America were discussed. Understanding problems may yield to solutions. Those responsible for keeping the dissemination system working are the natural group to suggest innovative solutions.

This is a time of rapid change for scholarly journals. Technological innovations have been significant and further change can be expected. There is increased competition for both top quality authors and for circulation in a context of proliferating journals. The new data bases and phtocopying technologies also threaten the journals. Yet, they are the cornerstone of a complex knowledge distribution network and because of this they will survive and some will prosper. The challenge for those responsible for journals and those who make use of them—virtually the entire academic community—is to understand how to make the journal system more equal, more responsible to the needs of scholars worldwide, and how to ensure their growth and survival.

Comparative Education Journals Today and Tomorrow

EDMUND KING
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IT is significant that some Comparative Education journals are now well over 20 years old—and still vigorous, with increasing subscriptions and an ever-widening readership (both geographically and in terms of the academic backgrounds of those who use the journals). Therefore it is important to look back on the changes which have taken place already, and to look ahead at changes still called for.

A Changed Context

Generally speaking, Comparative Education journals during the 1960s were mainly intended to serve students and teachers (at various levels) in university departments of educational studies or the rapidly expanding number of 'colleges of education' (under various names) growing up to sub-university or university-equivalent status. That was particularly so in English-speaking countries and those following United States precedents. In fact, most of the early post-war journals in our field were published in English—as a majority of the best-known still are. During the 1960s and 1970s there was widespread optimism about what education could achieve, and great confidence in what international co-operation and comparative studies or planning could achieve, with plenty of money around to support research and library expansion.

Now, however, the 'college of education' constituency has largely disappeared as an autonomous element in many countries as the colleges have been absorbed into various forms of more comprehensive higher education, or as the colleges themselves have 'diversified' to serve the same purpose. Also, many Faculties or Departments 'of Education' within universities are no longer so insulated from other faculties or departments but have merged (or diminished their boundaries) with kindred academic departments—such as those of social policy, area studies, etc. At the same time—across the whole range of learning—there has developed a tendency to move away from teaching 'straight' academic 'subjects' as individually sufficient, and to recognise the importance of interdisciplinary studies applied to the solution of practical problems.

Since it is obvious that real-life problems are far from confined to the 'student' milieu, correspondingly Comparative Education studies proper have moved more strongly into the research (or R & D) area, while comparative studies of education which are not under the banner of 'Comparative Education', so called, have now assumed world-wide importance in governmental and even business circles. All of this has meant that Comparative Education journals, and also other journals with a comparative or planning perspective, have had to range far beyond the rather parochial concerns of the 1960s-1970s' 'college of education' type of teaching and learning.

Simultaneously, within higher education departments actually teaching Comparative Education, there has been much less concentration on theory or method as subject-matter to be learned and much more awareness of comparative studies as perspective-giving or as aids in research and problem-solving of a practical nature—in schools, in society, and internationally.

As a by-product of this shift of commitment, an exclusive interest in 'Comparative Education' specialisation is no longer encouraged, either on academic grounds or for reasons of a personal career. The change has become particularly noticeable after the retirement of some high-priests of Comparative Education theology in English-speaking countries, although some other countries now cathing up on comparative studies—and having already been inclined to theorise rather than experiment—occasionally produce a would-be theoretical law-giver.

Two other factors affect the constituency of Comparative Education—both of an international nature. The first is increasing feedback from the field, (especially from low-income countries) where the attempted 'predictions' derived from comparative studies in the 'West' (or North) have not worked out properly, thus leading to greater demand for on-the-ground and empirically justifiable experimental studies. The second factor affecting the whole complexion of Comparative Education publishing is the recent but rapid growth of comparative studies in a wider range of countries which once were studied comparatively but did not contribute significantly to comparative studies.

English-speakers now have to note that not only do important educational journals of a general nature in other languages include comparative studies more frequently, but that comparative studies are the main or sole interest of new or re-oriented journals That is now the case with some Chinese, Spanish and Italian periodicals, for example Doubtless there are, or soon will be, Russian-language comparative studies as we understand them Moreover, the mounting strength of comparative and international researches in the Federal Republic of Germany 'locks up' from many of us much documentation of intense interest in German-language publications, even though our German colleagues are usually linguistically gifted and generous in speaking and writing English

Herein lies an unfulfilled task for Comparative Education publishing: that of disseminating multilingually expressed scholarship on a world-wide basis. That is a commitment partly undertaken by UNESCO, IBE, OECD and similar publications, as well as by international data-banks of factual information ; but systematic analysis beyond the limitations of conference papers (by their nature spasmodic, partial and 'ad hoc') is a growing and unsatisfied need for comparative studies today.

In brief, our constituency (or 'public') has changed. The content of our writing has altered too Much factual or descriptive detail is otherwise acquired. Whatever is known operates in a rapidly changing technological/

occupational/political context, and therefore our emphasis is more analytical or supportive than informative or prescriptive. Our modes of communication and follow-up are likewise changing. Hence editorial policy and management must change—as education itself prepares to face the continuous challenge of recurrent uncertainty.

Editorial Policy and Management

It is not for me—or any other Editor—to prescribe how journals should be edited and managed. After all, the journals themselves have different 'owners' or sponsors, who in turn envisage their 'public' differently and have different intentions. Some journals are the organs of international bodies; some are in effect the 'house magazines' of national or regional associations (though they may nevertheless serve an international readership); yet other journals are edited and managed independently by academic editorial boards although actually owned by publishing houses. Therefore I can only speak from the experience of 23 years on the Editorial Board of *Comparative Education*, and even so my views are personal.

In accordance with the changes outlined above, authors submitting articles (nearly always as 'volunteers' though sometimes invited for Special Numbers) reflect the altered perspectives and concerns of comparative studies of education today. A large number of the authors are not in academic 'Education' as narrowly defined. Many are professionally concerned with the practicalities of education, development or socio-economic change; and even those who are in 'Education' mostly have a personal background in one or more wider academic studies, such as the humanities, social sciences or nowadays even a technology. Most have practical experience in the field, and a considerable proportion have also had experience of responsible decision-making—some as Ministers or planners.

Therefore the Editorial Board of *Comparative Education* reflects the need to review and evaluate articles from authors who are basically specialists in collateral academic or practical interests, as well as in 'Comparative Education' proper The Board's members (not all British) cover in their academic backgrounds, their fields of experience and presesnt interests, and in linguistic competence, the basic necessary acquaintance with themes, regions or world problems likely to be encountered in articles received.

All members of the Board read all papers submitted, with the exception of a small number rejected at once because not within our province, or clearly incompetent Furthermore, at the Board's three meetings a year, all members freely discuss those papers in detail and the priorities for selection. (In the case of highly specialised papers, these are also referred to outside experts for a further opinion). Suitable papers submitted in a foreign language such as French, Spanish or Italian have been translated on occasion.

The compact size of Britain, and its communications, make such close teamwork and frequent meetings relatively easy. The possibility of having continental members on the Board have been considered, but ruled out because of problems of access and circulating papers expeditiously.

The Editorial Board of *Comparative Education* is therefore very much a democracy, with the Editor as Chairman and central point for correspondence, etc, as well as for the chores of publication. Policy for Special Numbers and future development is collectively decided. Occasionally, but rarely, a guest editor is chosen for a Special Number.

The closely interactive teamwork just described is in marked contrast to the practice of some other journals, national and international Two or three times I have served on the Editorial Boards of other journals which never met, and which only very occasionally sent papers for review (or not at all). Of course, international consultation is difficult even on an occasional basis, but if there is an 'editorial board', that should mean something more than a company prospectus or an 'honours list'.

Independent decision-making is central to the responsibilities of any academic or editorial board. One of the problems of being associated with an official organisation (national or international) is that of being subject to 'diplomatic' pressures, and care not to offend the important. (The same problem sometimes arises in writing for the publications of such organisations).

Authors receive no financial reward for writing articles for *Comparative Education* but receive 50 offprints free and can order more. This again differs from the practice in some other countries, where articles may be paid for. We also have to remember that newspapers and non-professional journals (and even some technological journals) also pay well, and therefore draw off some of our best potential writers It is highly creditable that so many write for us unpaid.

A practical problem for editorial policy in general is the spasmodic 'boom and slump' of good and not-so-good articles offered by authors—sometimes matching the periodicity of international conferences. However, conference papers as such seldom make good articles; they need modification or re-casting more often than not. Since the advent of the word-processor, authors sometimes seem to have re-processed or edited their discs without due regard for the logical requirements of a serious printed publication.

Associated again with computer-aided writing are two regrettable tendencies : (a) some authors seem to have set their computers the task of 'search and find' for quotations or data which are then strung together, or (b) masses of statistics or graphs are used as the alleged backbone of an article, which is then not much more than a thin veneer over an unassimilable solid core—instead of an exercise in hard thinking or a search for contextual trueness. Editorial policy in seeking a balance between the barely readable and the readable but "I was there" kind of article is a new type of problem

The Readership and Circulation

In our particular case the problems of finance do not directly concern the Editorial Board, since *Comparative Education* is produced and distributed commercially by the Carfax Publishing Company, Oxford, to subscribers in well over 100 countries ; and the subscription list is slowly but steadily growing despite some attrition. Most of the subscribers are university libraries, but there are also a good number of government and international offices among them Individual subscribers, who are fewer, obtain the journal at a cheaper rate.

Nevertheless, the mounting price of all journals and the dwindling resources of higher education in many countries certainly cause some loss of subscriptions. For the Editorial Board the chief concern is therefore the loss of that academic readership, over and above the loss caused by the contraction of the 'teacher education' constituency as a whole. Consequent upon that is the need to combine in our readership appeal three distinctly recognisable elements : (a) those concerned with tearcher education and other educational studies, (b) teachers now professionally engaged, and educational administrators, who need a comparative perspective ; and (c) those scholars and practitioners outside the field of 'Education' who nevertheless require an educational perspective on their area studies or governmental/developmental activities.

It is notorious that throughout the world the first two categories just mentioned are now suffering from economic shortages and professional depression As educators experience psychological misgivings and uncertainty about the prospect for education (indeed, about its efficacy), they are even less likely than before to read much about education that they do not need to. (And it must be admitted that in many countries few teachers read much about education after they have graduated).

Nevertheless, on television and in many of the more serious newspapers there is far more discussion about education—much of it increasingly comparative—than was the case two or three decades ago. We need only instance of the tremendous interest in Chinese and Japanese education, which is much more intelligently penetrative than the post-Sputnik concern for technological competitiveness was in the late 1960s. Who shall serve and foster this interest—at that popular level ? Certainly not an academic journal of the type we here represent, though perhaps some of us and/or our authors may write suitably in the more serious non-'educational' periodicals. As back-up for that (and for journalists) we do need to have well-informed but readable articles and books. The shift in commitment is not so much towards 'popularisation' as such, but rather towards 'intelligibility to the layman'—an objective sometimes forgotten. Experts in other fields (politics and commerce, for example) are often novices in ours ; and as teachers we should not overlook them. Hence comparative studies and publishing will have to be more directly committed to serving practical problems and decisions.

In industrialised and urban context we may indicate the crisis-points of contracting resources, of inner-city deprivation, of young adults facing unemployment or intermittent employment and job-change throughout their lives, of communication styles and the new learning needs and opportunities associated with them —and all the educational implications of headlong change and life-long uncertainty. Particularly (but not exclusively) in less urbanised contexts our attention must focus on access to formal education and training, on distance education, on adult and supplementary education, and so forth These are universal problems—requiring locally expedient solutions every time—but always with the insights drawn from profoundly sensitive comparative analysis worldwide.

It goes without saying that no journal, no research programme, can presume to offer prescription, formulae, 'laws' or other gimmicks for tackling these problems of education-in-society. It has long been acknowledged by most of us that *Comparative Education* specialists need partners from beyond the boundaries of our special field ; but now all experts of every sort manifestly need the partnership of those upon whom their expertise is exercised, and that means those participating actively in finding their own educational solutions—in other words, learners and reformers at every level.

Comparative Education journals therefore at an appropriate level according to their readership must be the vehicles of new information and new insights derived from fuller and multi-directional exchanges in a 'communication society'. Or at least they must assist in the process.

At the highest level, as internationally comparative research programmes develop (like the WCCES programme of research into the education and training of young adults in a perspective of technological and occupational change), Comparative Education journals have a wonderful opportunity to serve (in part) as clearing-houses for that flow of policy-oriented scholarship.

'Bildung und Erziehung' and its Contribution to Comparative Education

WOLFGANG MITTER

THERE is no journal in the Federal Republic of Germany which is especially or exclusively devoted to Comparative Education. The reason why this is so is that, on the one hand, the conditions of the 'educational market' deter publishers from runing the risk of publishing a journal which would not consider 'German' issues extensively. On the other hand, one has to look at the history and present stage of Comparative Education in the Federal Republic in general. Comparative Education is centred only at a few universities and in the German Institute for International Educational Research (Frankfurt). Moreover, with the exception of Hamburg University all the chairs whose holders work in the area of Comparative Education are not formally dedicated to Comparative Education, but comprise, as a rule, 'general education' as a whole with special orientation to history of education and educational policies Generally speaking, one can conclude that Comparative Education is, in comparison to other countries, widely integrated into Education (or Educational Sciences), as regards institutionalisation and the work of individuals (as teachers and researchers). Pointing to this factual situation one may also find an explanation for the non-existence of an independent society of Comparative Education in the Federal Republic. Comparatists have always preferred to work under the umbrella of the 'Deutsche Gesellschaft fur Erziehungswissenschaft' (German Society for Educational Science), the more so as all of them do not restrict their research fields to Comparative Education.

The special concerns of comparatists are taken care of by a publication series which has recently adopted the quality of a 'journal', though not appearing on the commercial bookmarket. It is called 'Vergleichende Erziehungswissenschaft : Informationen—Berichte—Studient' (Comparative Education · Information—Reports—Studies). Up to now 16 numbers have been published.

Comparative Education has been defined as a focal domain by the new journal Zeitschrift für Internationale Erziehungs—und Sozialwissenschaftliche Forschung' (Journal of International Research in Educational and Social Sciences) which has been published by the German Institute for International Educational Research since 1984 as a half-yearly periodical. While principally being a publication organ of the German Institute, it also invites external (including foreign) authors to make contributions

Articles on themes dealing with foreign education systems and developments can also be discovered in journals whose articulate concept does not include Comparative Education. In this context special mention should be made about the journals 'Padagogische Rundschau' (Pedagogical Review) and 'Die Deutsche Schule' (The German School), the latter being the official organ of the Gewerkschaft Erziehung und Wissenschaft (Union for Education and Science)

The present introductory remark should not be ended without the remark that in the German Democratic Republic there is a journal especially devoted to Comparative Education · 'Vergleichende Padagogik' (Comparative Education); it has been existing since 1965.

Comparative Education as a Major Topic in 'Bildung und Erziehung'

As regards the regular book-market, 'Bildung und Erziehung' (Education) has certainly achieved reputation of representing Comparative Education in the Federal Republic. It can be traced back to the founder of the journal, Franz Hilker, who took the initiative immediately after the war (in 1947) together with Erich Hylla. Hilker was one of the promoters of Comparative Education in Germany (and, one might add, in the international scientific community). Since the start of the journal, there have been, in regular intervals, special numbers devoted to matters of Comparative Education. Particular mention should be made of articles of fundamental significance, written by Bereday, Fernig, Lauwerys, Montessori, Sandelli and Spranger.

'Bildung und Erziehung' is far from being a special journal of Comparative Education Its concept covers a wide range including history as well as theory and methodology of education. The individual numbers consist of articles, actual papers ('Forum') and miscellaneous contributions ('Varia'), furthermore of documentations, reviews of books and, though at irregular intervals, surveys of the production of foreign educational journals.

However, Comparative Education plays an essential role in many parts of the individual numbers. Within the framework of the overall concept saying that the individual numbers should be, as a rule, dedicated to distinct themes, one of the four annual numbers usually specialises on a topic of Comparative Education Moreover, articles about themes of foreign education are included in numbers dealing with other areas of education

Moreover, Comparative Education has been given high priority in the thematic conception of the Supplements (Beihefte) up to now In this context, one has to look, in particular, at the second Supplement which was totally focussed on the report of the 11th CESE Conference (Wurzburg, July 3-8, 1983) under the title 'Education and the Diversity of Cultures' (edited by Wolfgang Mitter and James Swift).

'Bildung und Erziehung' in the West German and International Context

Considering the West German and international context, one has, above all, to pay attention to the problems posed by language and expertise. The editors (and the publisher) have to cope with an ambivalent situation.

On the one hand, 'Bildung und Erziehung' is a German-medium journal, thus meeting German readers' preference to journals written in their own language. It is true that educationists in the Federal Republic, as a rule, have a working knowledge of English Nevertheless, they may find it easier to read in their vernacular , besides, those who read English fluently, enjoy the privilege of turning to a wide range of 'genuine' British or American journals !

Sometimes special articles are published in English, and all the articles are provided with a summary in English. The vast majority of articles, however, is written in German. This concept confronts the editors with the following considerations ·

- The authors are either German native speakers or foreigners who have a good knowledge of writing an article in German. In some cases articles have been translated in recent years which, of course, is aggravated by the fact that there are no special means available for paying translators.
- The language policy has disadvantageous effects, insofar as it reduces the opportunities to reach non-German readers (and authors) and of keeping the sale rather low—with about 800 subscribers and about 300 to 500 additional buyers of individual numbers.

  On the other hand, the advantage of this publishing policy in regard to the market of the German-speaking countries should not be overlooked either, and that in connection with the aforementioned inclusion of 'Bildung und Erziehung' in the overall educational discussion. Since this journal has ensured access to this wider German-medium market, it has achieved reputation of being one of the prominent educational journals. There is no doubt that Comparative Education has got some benefit from this orientation, since articles dealing with Comparative Education reach educationists generally. However, the aforementioned disadvantage (reduction of space for publication, etc) must also be taken into consideration

Editorial Board

Since the middle of the seventies the Editorial Board has been composed of ten editors, one of whom fulfils the function of 'Geschaftsfuhrender Herausgeber' (Acting Editor) , since 1981 this function has been held by Wolfgang Mitter While two of the editors belong to the 'community of comparative educationists' (in the narrower sense), namely Oskar Anweiler and Wolfgang Mitter, two other editors are strongly concerned with Comparative Education in an indirect way, namely Karl Frey and Joachim Knoll. In this context one should be reminded of Saul Robinsohn belonging to the Editorial Board at the end of the sixties and the beginning of the seventies (until his death in 1972).

As has been indicated already, the editorial policy is focussed on the publication of 'theme-bound' numbers ; so-called 'free number' are included in the publishing programme only in exceptional cases. The choice of themes is made in the annual editorial meetings, whereby the editorial work operates on the principle of delegating responsibilities to one or two members of the Editorial Board. Usually, the edition of an individual number is the responsibility of him who has submitted the proposal in the annual meeting.

The Acting Editor is responsible for the smooth and punctual editorial procedure and for keeping permanent contact with the publishing agency (Bohlau Verlag, Koln) whose managerial director attends the annual editorial meetings himself.

Economic Realities

'Bildung und Erziehung' is a journal which is totally financed by the publishing agency.

Only in case of exceptional numbers the policy follows the principle of raising funds (as a rule, from ministries or foundations). This basic condition given, the publisher and editors are in the continuous need to hunt for subscribers and buyers Considerable help can be provided by one of the editors, when he succeeds in increasing the number of buyers for a special number (for instance, for the use in university seminars or for in-service work in adult education institutions)

The publisher must know what risk he is taking upon himself when entering a business like publishing a journal on such sandy grounds. Therefore it should not raise any astonishment that there have been two changes with publishers in the past 20 years. The last change (in 1980) has resulted in the — apparently surprising — effect that now the journal has a better placement with a 'middle-size' publisher that it had before with 'big' entrepreneurs.

There are no royalties paid to authors or translators. The journal appears as a quarterly periodical, each number comprising about 120 pages.

Current Issues

First, as regards the economic base of the journal, one can only hope that the status quo can be held, since all recent efforts to reach new subscribers have turned out to be more or less illusory. Apart from the fact that individual subscribers are the tiny minority among the buyers, austerity policies in libraries raise very serious questions. Fortunately, 'Bildung und Erziehung' seems to have not been on the priority list of cancelling up to now It goes without saying that the co-operation between the editors and the publisher must be treated as a concern of essential importance in such an emergency situation.

Secondly, the future of the journal is, of course, dependent on how the production can keep pace with modernising techniques. Up to now the production procedure has followed the progress in word processing and printing. At the present stage it is not predictable yet when and how the publishing procedure (and outcome) will leave the conventional 'book' form and turn to micro-electronic alternatives, provided that such a revolutionary change is considered to be reasonable at all in the near future

Finally, the stabilised role Comparative Education plays in the editorial policies of 'Bildung und Erziehung' cannot be taken as a guarantee 'for ever'. It depends, on the one hand, on the future development of this discipline within the overall community of educationists and the scientific community in general and, on the other hand, on how the editors will be able to offer relevant topics as well as to attract competent authors.

There is some uncertainty in regard to the future of 'Bildung und Erziehung' and, in particular, its further role in the progress of Comparative Education. It is the solid scholarly work which has characterised the history of the journal since its start four decades ago as well as the present editors' commitment to the international responsibility of their activities which may legitimate an optimistic outlook.

International Journal of Educational Development: Some Lessons

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THE *International Journal of Educational Development* (IJED) is a relative newcomer to the field of Comparative Education journals, being now in its seventh volume. The origins and aims of the journal, together with its scope and current management structure, set it apart from the more conventional journals in this field. The journal was originally established privately by an educational consultant with an explicit aim of being policy-oriented and communicating directly to practitioners in developing countries. It is now published by Pergamon Press, with an editorial structure of a team of rotating executive editors The aim of this paper is to explore some relevant issues arising from a brief review of the history of the journal. The remainder of the paper is divided into three parts: first, a history of the establishment of the journal; second, a discussion of some lessons that might be learned from its experience; and, finally, a consideration of likely future directions.

Background

The idea of establishing the journal came in 1979 from Mr. William Ozanne, who together with his brother had experience of project management consultancy work in developing countries. They felt that there was a need in developing countries for a greater sharing of practical experience amongst those directly involved in the field of education. In their travels they had met considerable scepticism about the usefulness of many educational 'experts', who had been flown in from Western countries for short advisory visits to the Third World, funded by agencies such as the British Council or UNESCO They therefore decided to establish an educational sector of their

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Note: The views expressed in this paper are those of the author and do not necessarily represent those of other members of the Editorial Board of the journal consultancy work, whose aim would be to facilitate the practical exchange of relevant educational expertise in a Third World context. To support such an aim, Bill Ozanne, together with Professor Philip Taylor at the University of Birmingham, began to investigate the idea of a new journal devoted to such a theme. From this, together with discussion with other contacts, they received not only positive feedback but also the observations that, to date, there was no journal devoted specifically to the consideration of education in developing countries and that the development field had tended to be dominated by economists.

To help establish such a journal, Bill Ozanne was hoping to receive some financial assistance from relevant international organizations, but none was forthcoming. However, given the support of his academic contacts, principally Professor Taylor, he decided nevertheless to go ahead with the project, funding it himself The journal was formally established in 1980 under the editorship of Dr. John Oxenham from the Institute of Development Studies at the University of Sussex and with an Editorial Board consisting mainly of leading academics in the field

From the outset, several features differentiated the IJED from other more conventional academic journals. It aimed to appeal to, and seek contributions from, people who had direct experience of implementing educational projects and plans in a Third World context. As Mr. Ozanne put it in an interview with me :

> From the beginning we had this notion that it had to be about implementation—people in the field who knew what they were talking about... We need people who have had practical experience but who can observe what they are doing and generalise from it .The last thing I wanted was that it should become just another university toy.

Rather, therefore, than appeal directly to the academic market, the journal was explicitly aimed at policy-makers and practitioners It also actively sought contributions from overseas writers with long-term experience of their own countries in addition to those from Western academics with direct experience of education overseas. This placed a high premium on the first journal's editor, John Oxenham, exploiting the many contacts he had worldwide in the educational field Dr Oxenham also felt strongly that it followed from the journal's ideology and aims that the Editorial Board should have a wide representation from the Third World This, as we shall see, proved very much more difficult in practice, but in the early days of the journal ideas, such as a rotating editorship around different continents, were floated.

The journal's first issue appeared in April, 1981, announcing that its aim was to :

> Provide a focus on the whole area of education and learning in development situations Its main intention is to assist the exchange of ideas among countries which have not yet fully developed primary and secondary level education systems.

The fact that the journal was not exclusively focussed on developing countries was made clearer in later issues :

> The Journal will accordingly give priority to contributions from and about developing countries. It retains at the same time a strong interest in the promotion of effective learning, wherever educational opportunity is difficult to create and sustain

'Education' was to be interpreted in a broad way—as a draft statement of editorial policy had earlier put it :

> The IJED will interpret as education any activity which is designed to help people learn something, whether that be a simple skill or a fuller understanding of a social situation. The interpretation will embrace schooling in its various forms, as well as programmes such as apprenticeships, industrial training, agricultural or health extension or the learning components in such operations

> as rural settlement scheme. It will also include analyses of the kinds of education commonly termed 'traditional', where these seem useful.

The journal was to be published three times a year and each issue was to have most of its articles devoted to a specific theme. A Reports section was to keep readers abreast of relevant up-to-date developments. Abstracts were published in three languages (English, French and Spanish) in the hope that contributions would be encouraged from a wide variety of countries, including those in South America Such hopes never materialised because the translation costs proved prohibitive

Towards the end of 1982, and the second volume of the journal, it became evident to Mr. Ozanne that the financing of such a journal required a longer-term commitment than he was in a position to provide. He had priced the journal cheaply (25 pounds sterling per annum to institutions, but a personal subscription of 15 pounds) in order to facilitate the kind of personal subscriptions that the journal's aim of appealing directly to implementers in the field required. However, the initially slow build-up in subscriptions (the story of most journals at their outset) was such that he could no longer afford to finance it in its early phase. He therefore looked around for an established journal publisher who would be sympathetic to the aims of the journal and who might also be prepared to purchase it, in order that a proportion (small, as it turned out) of the initial development costs could be recouped

Pergamon Press fulfilled this role. The publishers of many journals, including *World Development*, and of the forthcoming *International Encyclopeadia of Education*, they viewed the journal as appropriately plugging a gap in their coverage. The transition to Pergamon Press coincided with the decision of the journal's first editor, John Oxenham, that he could no longer fulfill this role. Government financial cuts had resulted in Dr. Oxenham's department, the Institute of Development Studies at the University of Sussex, having to provide half of its members' salaries from the proceeds of consultancy work, as well as losing secretarial staff. Such increased pressures left neither opportunity nor resources to help edit an international journal.

During the search for a new editor for the journal, I made the suggestion of a rotating editorial group, based on my experience as a founder member of a group of executive editors which had established the *British Journal of Sociology of Education* in 1980. My view was that, with the increasing pressures on academic staff in British universities in the 1980s, together with reductions in funding for secretarial support, no-one could be expected to fulfill the traditional single-person editorial role. The BJSE's experience of a team of executive editors, with a Chairperson to whom correspondence is sent and papers submitted, and members of the team taking turns to produce different issues of the journal had proved a very successful one.

This suggestion was adopted and I joined a team of (initially) eight executive editors. These included a Chairperson, Professor Philip Taylor from the University of Birmingham, and a Reviews Editor, Dr. David Stephens from the University of London. It was the responsibility of the remaining six, which included the journal's founder Bill Ozanne, to take it in turns to carry out the everyday management of the journal. Our current policy is that this rotating editorship changes every four months, and for each four-month period such editors receive papers (via Professor Taylor), have them refereed, decide on their suitability and edit manuscripts prior to publication. During this period, these editors are in direct contact with the relevant journals production personnel at Pergamon Press.

Since its acquisition by Pergamon Press, the journal's publishing and sales promotion policy has inevitably changed. The journal now has the benefits of a large advertising and publicity machinery. Most of this is targetted at large-institution subscribers (particularly universities), resulting in its readership overlapping with that of other academic journals more than was anticipated at the journal's inception. The journal began from 1984 to publish four, rather than three, issues a year, and this was associated with an increase in its subscription charges—again bringing it more in line with other academic journals. Unlike the first two volumes, each journal issue is not now devoted to a specific theme, although we do from time to time have thematic sub-sections of an issue.

Following this brief account of the history of the establishment of the journal, I would now like to address some issues which emerge from it.

The Lessons Learned

The journal has always experienced a tension between academic rigour and its practical, policy-oriented aims. Part of its original intention, as seen by its founder, was to get away from either the kind of abstract theorising or the kind of detailed statistical analysis against which educational implementers in developing countries had mounted the charge of 'irrelevance'. However, referees have often pointed to the fact that accounts of projects in action are unlikely to be of interest to those beyond their immediate context unless their findings are in some way generalisable. There has therefore been an understandable pressure to reject anecdotal accounts, however insightful, in favour of accounts of more rigorously executed research or evaluation work.

Despite Bill Ozanne's original aims for the journal, one might have expected that, in its drive for respectability and subscriptions, especially following its transition to a major academic publisher, it would become increasingly academic in orientation—a kind of journal equivalant of Foster's (1965) 'vocational school fallacy' argument. In fact, I do not believe that this has happened, in the sense that we rarely publish the kind of theoretical article often found in the more traditional Comparative Education journals. Nevertheless, there seems to be some agreement amongst readers of the journal that, following a sometimes shaky start, the quality of articles published has steadily increased, reflecting, in part, an increasing flow of submitted papers from which to choose.

As part of its monitoring of the journal's coverage, all the members of our Editorial Board and panel of international Editorial Consultants were recently surveyed as to their judgement of the relative significance of issues which the journal has treated or might treat in the future This included a list of thiry-two topics, each of which they were asked to rank as 'highly significant', 'significant' or 'less significant'. Dr. Bob Thompson, secretary to the journal's Editorial Board, who carried out the survey summarised the results as reflecting 'a variety of personal opinions, the majority of which suggest that virtually all the themes are significant, and which tend to cancel each other out at the ends of the scale' He also noted some personal surprises in the results—such as the high significance attached to 'international aid/cooperation' and the lack of decisive opinion on issues such as 'evaluation/tests and measurement', 'staff development', 'UPE' and 'Women in education'. However, one response is worth quoting at some length because it suggests that the journal has managed to maintain a blend of practical relevance and academic debate that makes it distinctive. Commenting on the questionnaire survey, Stephen Heyneman from the World Bank wrote :

> IJED has become an extremely interesting journal It is topical. There is good debate and on highly substantive issues. It has acquired a reputation of being on a 'must-read' status in the World Bank's Education Sector. Articles are not as thorough, as scholarly, or as technically

> sophisticated as in the major sociological of economic journals ; but they are interesting and very relevant to day-to-day issues . My advice, if you're willing to consider it, is not to lose this sense of extraordinary relevance. If you were to try and meet all the various side interests in the field of education, if you were to take the results of this questionnaire too literaly, IJED might lose something in the process.

A second lesson to be learned from the journal is that many of its original aims proved more difficult to operationalise than had been anticipated This applies especially to the hopes for the composition of contributors, subscribers and the Editorial Board. In practice, each of these areas has been more dominated by British academics than had been thought desirable. It has proved difficult to encourage those with direct experience of implimentation to contribute articles and, where they have done so, they have often not been able to generalise the implications of their observations and experiences. Two points are relevant here : motivation and research training. It is generally only academics who have the motivation to spend time writing for journals for which there is no financial reward. It represents an accepted part of their job, for which rewards are given in the form of a career structure. Planners, curriculum developers, teachers and project workers are simply too busy. Moreover, they usually do not have the kind of research training or wider knowledge of related work in the field required to draw valid generalisations from their experiences

For similar reasons, the market for the journal is now seen predominantly it terms of large institutions, and especially universities, whereas the journal's original aim was to appeal directly to those responsible for educational policy and implementation in the Third World. As Bill Ozanne put it to me : 'If you're going to have this sort of publication, then there has to be some balance between the needs of the publisher to market it and getting what you want put across' Thus, given that the journal is focussed on Third World issues, there is an obvious irony in the fact that the most rapidly expanding area for subscriptions, now representing more than a quarter of our coverage, is North America. However, viewed more positively, this might reflect the increase in the last few years in the number of North American universities who are recruiting overseas students. following the demise of subsidised fees for overseas students in Britain. Again, viewed positively, it may be that the sale of the journal in developing countries to universities rather than directly to policy-makers and implementers does not significantly lessen its potential influence. In a Third World context, universities tend to be planning institutes used by governments, with academics having a generally more direct influence on policy than in the West.

The failure to internationalise the Editorial Board and to reduce its Eurocentric emphasis has been a disappointment. The Board has always had a large team of Corresponding Editors and Editorial Consultants from overseas, with many from developing countries. However, in practice, contributions to and interest in the journal seem to have been spread more through brief visits overseas by British academics. In part, this reflects obvious problems of communication (problems that also curtailed early plans for a rotating editorship overseas). However, it also reflects the fact that Western academic culture is far more conductive than Third World academics culture to journal production and writing for an international audience. The inevitability of such a tendency is perhaps suggested also by the experience of the recent journal *Education with Production*. Although this is based in Botswana, and devoted primarily to the theme of more relevant aproaches to schooling in developing countries, it too reflects a dominance of Western academics in both its articles and its organizational structure.

The editorial structure of a team of rotating editors is an unusal one, with both advantages and disadvantages. Such a structure is particularly advantageous for a journal, such as the IJED, whose theme is likely to result in any editor making frequent visits overseas. Thus the sequence of rotation can be easily altered in order to ensure that the particular editor responsible does not travel within their four-month duty period. Such problems have afflicted our Book Reviews Editor, following his regular periods visiting and teaching in East Africa, as part of an exchange scheme connected with his job. This has led to the appointment of an 'alternate' Book Reviews Editor to cover in his absence (although he, too, is frequently travelling!). This points to a general problem for a journal whose content is oriented to education in developing countries—namely that the most experienced and suitable people required to organize and edit it are likely to be travelling frequently. Here again, the rotating editorship structure is helpful, because it provides a larger pool of people who are actively publicising the journal, and soliciting contributions during their travels overseas. This editorial structure has also succeeded in sharing the editorial workload in a more egalitarian fashion. This is perhaps especially important for a journal, such as the IJED, which is keen to publish articles from overseas writers. Since many of these writers do not have English as their first language, editors spend much more time in stylistic corrections than would be the case in most other journals.

However, the rotating editorial structure does have disadvantages, from which we have had to learn from experience. These disadvantages are largely a product of communication difficulties, both between executive editors and between editors and contributors. We have found it to be essential that a careful written record is kept in a standard form, documenting the dates of receipt of incoming manuscripts, dates of despatch and return from refereess and consequent decisions. This needs to be cumulative and *all* the records transferred each time the executive editorship changes. In the early days, it was sometimes assumed that out-of-date records need not be kept. This, however, caused confusion when a revised manuscript turned up, perhaps a year later, and the current executive editor had no record of who the original referees were. We have also found it helpful to have a written 'Handover Report', whereby at each four-month switch of duty the outgoing editor notes the progress of all manuscripts where a decision has yet to be made. Our referees are all asked to submit their reports within three weeks, and so such a handover report would, for example, note the dates at which reminder letters would need to be sent to referees where necessary.

If communication problems between executive editors have now largely been solved through a standardisation of our procedures, the same cannot be said of communication problems between contributors and the journal. These are, perhaps, inevitable, because it is often the case that a contributor will be communicating with two, or even more, executive editors over their submissions, especially if revisions to the manuscript have been suggested. However, as long as initial submissions are sent to our Chairperson, as indicated in our 'Notes for Contributors', and any subsequent correspondence is efficiently transferred from one executive editor to another when required, then problems should not arise. While this might well be somewhat confusing to individual contributors, this may be a price that has to be paid for the increased efficiency and speed of refereeing, which we believe result from the advantages of such a system argued above.

Future Directions : Problems and Possibilities

I have suggested that there are several problems inherent in a journal which is aimed at policy-makers and practitioners overseas, but whose marketing strategy and editorial structure tend to reflect the academic culture of more conventional journals. In view of this, one might ask whether the aims of directly improving practice, by appealing to practitioners, and those of maintaining academic respectability in an international journal format are incompatible ? In answering this, some lessons might be learned from the parallel experience of the journal School Organization.

School Organization started at exactly the same time as the IJED. It was focussed on the First World rather than the Third World and more narrowly on schools and colleges, rather than the IJED's broader educational focus. However, these points apart, its aims were remarkably similar. Its first issue stated that it was looking 'for articles that will consider the practical issues concerned and, where possible, be written by those actually involved with the work of the schools'. Later, a more elaborate note was published for intending contributors in the first issue of Volume 7 :

> *School Organization* is an international journal committed to the publication of articles, reports, news, and information on all aspects of the organisation and management of schools and colleges. The journal is fundamentally committed to the *improvement of practice.* Contributions from practitioners are therefore particularly welcome. Intending authors are actively encouraged to contact the editor at an early stage when the journal's author support and guidance service can be activated. More analytic/theoretical papers are also welcome *provided* that the relationship between theory and practice is made explicit. In all cases contributors are also encouraged to make use of original documents, schedules used, development material, if this would be likely to be of interest to other practitioners, or stimulate further action on the part of the reader.

Its first issue contained eight articles by teachers and only one by an academic. Although, since then, the proportion of articles written by academics has increased significantly, it is notable that currently academics only contribute about half the articles, leaving practitioners (usually teachers) and policy-makers (usually Local Education Authority officials) with a major input, in line with the journal's intentions. The same cannot be said of the IJED This prompts the questions of why such differences exist and whether there are any steps which might be taken to help close the gap between our intentions and the coverage of the journal

In the last section of this paper, it was suggested that policy-makers and practitioners tend not to contribute to journals through lack of time, lack of motivation and lack of access to the conventions of academic culture. In this respect, *School Organization* has benefitted from the rapid growth in Britain over the last ten years of the enrolment of teachers on award-bearing higher degree courses as part of their inservice training. Large numbers of teachers have been given the opportunity to research aspects of school organisation and innovation and present their findings within an academic context. This suggests that the IJED might try to do more to solicit contributions from the increasing numbers of overseas students who are undertaking higher degree courses in the West

A review of the contents of articles in the IJED and in *School Organization* also suggested certain possibilities for the future of our journal. A content analysis of all the issues of the IJED to date revealed that about 60 per cent of the articles could broadly be described as discussions of policy, reviews of relevant literature, or more theoretical position papers The remaining 40 per cent were reports of empirical work (30 per cent) or more descriptive short reports (10 per cent). Of the empirical research studies, over 80 per cent used predominantly quantitative methodologies, with less than 20 per cent using qualitative ones.

The two most striking differences with the coverage of contributions to *School Organization* are the greater number of short reports in the latter and the far higher proportion of research based articles that reflect a qualitative methodology, such as case-study or action research. The IJED has already noted the decline in the number of short reports that we publish and we are in the process of appointing a 'News and Reports' editor to counteract this. It is felt that such reports have the benefits of reflecting grass-roots experience and of encouraging contributions from people who might be more daunted by the prospect of submitting full-length articles. An increase in the number of research contributions reflecting the use of qualitative methodologies, that often have the added benefit of being more immediately accessible and relevant to practitioners, may prove to be more difficult, given the dominance of a quantitative paradigm in Comparative Education

Elsewhere Michael Crossley and I have argued that the validity and usefulness of much Third World research work in the educational field, and especially in the evaluation of innovations, has been hampered by a reluctance to use case-study and ethnographic research strategies, in addition to the more conventional quantitative ones (Crossley and Vulliamy, 1984). We also suggested that academic research on education in developing countries had been too preoccupied with systems analysis and with educational plans at the expense of studies of the implementation of such plans in practice. It may be that one positive way in which the tensions between academic rigour and practical relevance could be partly resolved is in the reporting of the increasing amount of academic research in the Third World which is now tackling implementation issues using predominantly qualitative, rather than quantitative, research techniques

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International Distribution of Knowledge : A Developing Country Perspective

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ALONG with books, journals are a basic means of communicating knowledge and transmitting culture. As an integral part of the intellectual system of a country, the publishing and distribution of journals are closely related to social, political, economic, and cultural conditions of the nation. In this regard, problems in the dissemination of knowledge in the form of journals have not only national but international implications. Based on empirical knowledge about educational journals in a developing country like China, the paper is intended to offer some personal observations on aspects related to the West 'domination of the international flow of knowledge''.[1]

Role of Journals

No country can hope to develop without a publishing industry. Indeed, a nation's production and consumption of books is likely to be a very good index of its general stage of social and economic development. One of the principal problems of any development programme is therefore to assure the availability of books and journals, and the means for producing and using them.

For over 300 years since 1665 when the *Scholar's journal,* one of the first journals in the world, was issued in France, journals have been an effective medium for information exchange and dissemination of research findings. Compared to books, journals offer many advantages. They are 'the most visible form of the invisible college of scholars'. They constitute about 2/3 of present world information resources, breaking the domination by books in knowledge dissemination, which was maintained for more than 2,000 years. Journals play the role of key, 'gatekeepers' of what information to be made public ; they could be published in much shorter periods on a continuous basis ;

they permit wider and speedier communication of new knowledge to professionals and non-professionals.

According to survey statistics, about 68 per cent of information for American scientists is derived from journals; 70 per cent of information for British electrical engineers is from journals , nearly 84 per cent of scholarly literature made use of by chemists in the USSR Academy of Sciences are journals.[2]

Journals are also a major source of information for Chinese scientists. According to statistical analysis, 83.5 per cent of citations in a Chinese medical journal (1980) were from journals ; 91 per cent of citations in Chinese literature on physiology were from journals ; 90.1 per cent of bibliographical items in *Biological Abstract* (USSR) and 98.8 per cent of *Biological Abstracts* (USA) both in 1971 were cited from journals.

While three-fourths of publications in the US Congress Library have been journals. Nearly 50 per cent of the publications held in Beijing Library, the largest one in China, are journals. Nearly 80 per cent of yearly budget for the Library of China Academy of Sciences is devoted to the purchasing of journals ; the percentage for ordinary libraries has also gone up to 50-60%.[3]

Journals Publishing and Distribution : The Chinese Case

It is of interest to note that the earliest journal published in China in Chinese was *A Study of the East and West*, a monthly founded in Guangzhou (Canton) in 1833 by foreign missionaries, which became the Western colonialists' weapon for economic and cultural aggression against China. (*Culture*, pp. 23-24).

In terms of the number of journals, there were ups and downs in the period 1950-1980.[4]

Year	Number	Circulation in 1000 copies
1950	195	35,300
1956	484	352,650
1957	634	315,000
1965	790	440,660
1966	191	234,410
1969	20	45,890
1976	542	557,830
1979	1,470	1,183,730
1980	2,191	1,124,790
1985	4,705	2,560,00

While the domestic market is the major purchaser of journals. China also exports journals, most of them in languages other than Chinese However, in terms of numbers of titles, China imports more journals than its exports.

In China, the Foreign Languages Publishing and Distribution Bureau affiliated to Ministry of Culture is responsible for publication of both journals and books in over 30 languages for distribution to more than 180 countries in five continents. It has six publishing houses for publishing journals in foreign languages. It also supervises the Chinese National Publications Import and Export Company (previously Guoji Shudian), which now annually imports 27,000 journals in a total of 270,000 copies. Among the imported journals, 33.8 per cent are from the USA ; and in terms of number of titles, British journals rank the second, with Japan as the third, the USSR as the fourth, and West Germany as the fifth.[5]

In contrast, during 1980-1985, China only exported 3,384 titles of publications, only a small percentage of which were journals. In 1979, only 330 journals and newspapers were distributed in about 170 countries and regions, totaling 11,000,000 copies. In 1985, China National Publications Import and Export Co. alone imported more than 28,000 titles of journals in 280,000 copies, in addition to 100,000 titles of Books.[5]

In the field of education, there are about 900 journals in China, some of which have only domestic subscribers. At the Central Institute of Educational Research, the national research center in education, where the largest educational library in the country is located, 296 officially registered domestic educational journals are subscribed, with another 400 or so journals published for institutional exchanges in limited circulation. The Institute's Library also subscribes to nearly 300 education journals from abroad, mainly from Western developed countries.

In the field of education, only one journal, *China Education Sciences*, is published in English and could have a potential of reaching Western audience. Beginning its publishing only from 1986, even this one has problems in international marketing.

From early 1970s China began experimental projects on computerized retrieving systems. In early 1980s telex terminals were established which were connected to American information systems by means of telegramme lines. In 1983 with the help of the UNESCO, the China Institute of Science/Technology Information set up internationally-connected information retrieval terminals In 1985 the ISDS-Chinese national center was set up, and, in 1986, a computerized system for processing data from journals and other continuous publication was built. Thus, Chinese journals will gradually use international standardized ISSN and their data will be entered into the database of the international center located in Paris Through sattelite systems, 33 computerized retrieving terminals in 17 cities of China have been connected with such international systems as ESA-TRS, DIALOG, and ORBIT, with a storing capacity of more than 200 million articles.[6] As a whole, however, the modernization of the information system in China is still at its initial stage.

While printing industry is among major industries in the US, it ranks only the 30th in China's industries. Though China has foreign languages printing factory which could print journals in about 50 languages, the infrastructures of its printing industry is generally underdeveloped, with inadequate financial resources and much out-of-dated equipment.

The distribution mechanisms also restricts the distribution of journals and books to international readership. The Chinese National Publication Import and Export Co. is the only channel through which West libraries could subscribe China's journals, and only in recent years it set up branch offices in Western Europe and North America. It still needs time for them to establish an effective distribution network in the West

Dependency of Third World Nations in Journals/Book Publishing : Problems and Causes

Despite the big progress made in recent decades, publishing of journals/books in developing countries as a whole is still in a state of underdevelopment. Some countries are still at a relatively primitive stage in book/journal production and dissemination. Viewed from the international context, which is characterized by domination by industrialized countries and inequalities in many fields, the Third World nations are still "at a distinct disadvantage in the international publishing system". They are, in many respects, "dependent on the industrialized nations, which hold the bulk of the world's resources, particularly in areas that impinge on books and publishing"[8] Altbach and Rathgeber, 1980, p 11). Many developing countries have failed to respond to the needs and possibilities of book/journals publishing about their areas and by their scholars. For example, the best books on French-speaking West Africa or by French-speaking West Africans are still published in Paris, rather than in Dakar or Abidjan. This state of underdevelopment and dependency is sad, but-unfortunately true.

The present state of third world publishing is the result of many special problems in these countries. Among these problems that affect publishing are the following

1 Lack of strong support from the government. Since there is not a range of economic structures to support book publishing, like the case in industrialized nations, the governments of developing countries play a big role in initiating and developing book publishing and its infrastructures. But, for a variety of reasons, many third world governments do not regard books and publishing as 'priority items'; their attitudes toward cultural development is often 'ambivalent' ; some regimes ignore or discourage publishing ; still others just content themselves with rigid political and ideological control of the publishing activity. The kind of politics can only have negative effects on the development of publishing industry. What is worse is that government leaders or some developing countries deliberately adopt a policy of dependency on foreign countries and have no intention developing indigenous publishing. Many third world nations are often amid political upheaval or under military rule The political situation inevitably impede the development of publishing, which requires a favourable intellectual environment and academic freedom.

2. Though there are great differences among Third World nations, most developing countries are economically underdeveloped Their national income per capita is many times lower than the industrialized countries ; they lack sufficient foreign currency to import necessary printing facilities ; they are short of advanced technology for efficient publishing ; they are unable to provide large enough budget for the training and recruiting of personnel in a strong publishing industry. For many Asian and African countries, the major problems are still poverty, hunger, and disease. Confronted with the enormous task of maintaining the minimum standard of living of millions of people, book and journals publishing naturally falls out of the development agenda of priorities.

3 Low literacy rate and underdevelopment of the educational system. The majority of the nearly one billion illiterates in the world are in developing countries, thus largly decreasing the potential book market in these areas. Despite the great efforts made in past few decades either by developing countries themselves or by international organizations like the UNESCO in eliminating illiteracy millions of people remain unable to read and millions of new illiterates are emerging. Primary education is still not universal in most Third World nations Popularized secondary education is further away while mass higher education remains a distant goal. Also the internal efficiency of the educational systems of many developing countries is relatively low. The impact of colonial-inherited education systems is wide and obvious. For example, European languages are still used as the language of instruction in many educational institutions in developing countries. On the other hand, because of the large-scale educational expansion, after the World War II, especially during the 1960s, publishers in many developing countries are under much pressure and find it difficult to provide large number of different books for diverse student populations.

4. Linguistic diversity. In most Third World countries, different languages are spoken by various segments of the population. Local languages have continued to be in "positions of secondary importance", and many western-educated intellectuals prefer to teach or write in metropolitan languages. Some Third World nations are linguistically underdeveloped. Some minority nationalities in some developing countries even have not developed a written language system. Even in China, which has thousands years of recorded history, some nationalities only formulated their written scripts in recent years with the help of the government. Severe problems created by

multilingualism include the difficulty in building indegenous publishing infrastructures in a variety of languages, limited market and little export potential of the local languages, limited authorship, and forced dependence on foreign publishers for certain kinds of books. As a result, many developing countries still publish many of their books for students' use in languages other than their mother-tongue. For example, West African publications are most in English and French ; East African, some Central and Southern African, publications are chiefly in English , many books published in Malaysia and Thailand are in English ; and nearly 50 per cent of Indian books are written in English.

5. Lack of qualified editors and publishing managers, who are vital to the development of a journal industry Ofcourse this problem is related to the government attitude towards and policy in publishing, to educational development level, and to the labour market

6. Inefficient distribution mechanism Distribution might be considered as one of the greatest shortcomings in the Third World publishing process The book-distribution mechanism is either inadequate or inefficient. Many publishers do not have the services of whole-salers and distributors, promotional agencies, and book clubs. There is also a lack of effective review media. Bibliographic resources are inadequate. As regards the distribution of domestically published journals to the international market, the Third World publishers are more inexperienced.

7. Underdevelopment of library systems. No book industry can function successfully without a library system that provides a market and a means of distribution for its product. "Libraries are a vital link in the chain of distribution" (Altbach and Rathgever)-Libraries in the third world nations are not adequate, and not up-dated. There are not many public libraries besides those in schools and colleges (e.g in China there are only over 2,000 local libraries beyond country level, at an average of one library per 400,000 persons); there is neither sufficient library funding to purchase necessary books and journals.

As regards scholarly journals publishing, a field which is vital to the development of sciences and education, most developing countries still have a long way to go to meet the needs of their modernization programmes Although there have been hundreds of scholarly publishers in these areas, but the majority of them are "Potemkinvillage facades with very little behind them" (D. Smith, *Scholarly Publishing*, April 1981, p 197) The growth of scholarly publishing is impeded by problems of marketing and distribution Standards of quality control over manuscripts remain to be improved ; publishers need more visison rather than dreaming of "hardware solution for software problems" (Smith p. 215) Most scholarly publishers have not done a good job of reaching the potentially rich foreign market for their journals published in world languages.

Western Dominance of the Knowledge System : Changes and Prospects

It may be of interest to cite the following figures to illustrate the imbalance of development in publishing industry between developed and developing nations According to *Unesco Statistics Yearbook* (1985), 15 countries had an annual output of over 10,000 titles in 1983 (unless otherwise noted) :

The USSR : 82 589 ; the USA : 76,976 ; West Germany . 58,489 ; Britain : 50,981 ; Japan : 42,977 (1982) , France . 37,576 ; South Korea : 35,512 ; China : 31,602 (not including Taiwan) , Brazil . 19,179 (1982) ; Canada . 19,063 (1980) . Italy . 13,718 ; Holland : 13,324 , Switzerland 11,405 (1982) ; Yugoslavia : 10,931 ; India : 10,649.

Two facts are clear from these statistics ; one is that industrially developed nations still dominate the worldwide distribution of knowledge in terms of book publishing, which is also true of journals, the other is that some developing nations have had a reasonably large base to catch up with the advanced ones. In 1984, for example, China published 40,072 titles of books in over 5,400 million copies, ranking the first in the world in terms of copies printed and the sixth in terms of number of copies per head.[7]

While the old unequal relationships in knowledge dissemination 'will continue for some time into the future',[8] there have been signs of change and we need not be pessimistic about the future prospect 'In fact, Asian and African countries, posed as they are on the threshold of developing workable publishing systems, have a very bright future' (D. Smith, *Perspectives on Publishing*, p 131) This optimism is not ungrounded

1. In the contemporary age of rapid socio-economic changes, there has emerged a new upsurge of national development and modernization in the Third World nations, and the significance of book/journal publishing to economic and educational development has been recognized by their leaders. Publishing has come to be seen 'as a mechanism of development rather 'as a frill' (Smith, p. 132), and incorporated into national social-economic development programmes. Greater support and more financial and material resources have been extended to publishing industry.

2. Many developing countries are rich in natural resources and their economies are improving as a whole, despite serious difficulties and drawbacks effected by natural disasters in several regions Along with economic growth, the purchasing power of the public is gradually raised, giving impetus to the publishing industry, which is also improving in its equipment and technologies.

3. Education, which is crucial to book/journal publishing, is steadily developing in most developing countries. Literacy rate is increasing; schools and universities have expanded. This provides the publishing industry with more qualified authors, editors, publishing managers and distributors.

4 There has been a good relationship in many developing nations between publishing and the electronic media While the publisher saw TV, radio and other eclectronic devices as 'mass promotional mechanisms for printed materials', the media men regard journals and books as necessary, basic means of communicating knowledge and useful supplements.

5. Two-way international communications and exchanges are increasing as part of the efforts made in recent years by international organizations to change the unequal flow of information

It goes without saying that the basic pattern of unequal international distribution of knowledge would not change in the near future, as international information order are closely tied to international economic order is cultural traditions, which are not easily changed in a short period. Nevertheless, we have reasons to hope for the better and strive for greater equality.

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Prospects : Quarterly Review of Education

Z Morsy

For over fifteen years now Unesco's quarterly review of education, *Prospects*, has been analysing the problems and the future of education throughout the world. From the outset this was a responsibility devolving on it by its nature as an international review : the major trends, objectives and priorities as defined in Unesco's programme and by the biennial conferences of the International Bureau of Education provide it regularly with a frame of reference, and institutions and professionals working in the field of education in nearly 150 states regularly supply it with commissioned articles and first-hand information.

There are probably few countries that do not have a host of reviews on the most varying aspects of education, ranging from periodicals dealing with individual disciplines of school curricula to publications by teachers' unions, universities and research institutes. With the exception of a certain number of comparative education journals, some of which are of a remarkably high standard, the main aim of these publications is to meet the specific needs of the teaching profession and of planners and researchers at the national level.

In *Propspects* our first aim was to break with intellectual divisons which have previously prevailed, such as segmentation by discipline and a single analysis 'grid', or pattern, and to propose a dual approach to current educational problems: global and integrated (interdisciplinary) as far as reflection is concerned ; experimental, even didactic, as far as practice is concerned. The review accordingly set out to stimulate the renewal of education and of its links with social, economic and cultural development by making available the widest possible range of viewpoints and experiences. In this way, over the years and from one issue to the next, it has brought about exchanges among countries, specialists and disciplines, thus breaking new ground by comparison with the specifically national approaches, where matters concerning education are generally considered and experienced in terms of particular theories, depending on personnel categories, philosophical schools and, even, quite often, on passing intellectual fashion.

The next aim of *Prospects* was to introduce the international dimension, which includes an attempt to present a necessarily partial synthesis of the current state of education worldwide and forecasts for development. As with politics or economics, educational systems, despite their differences, are increasingly interdependent. Neglecting to take account of this fact invites the risk of an imperfect understanding of the state of the art, and the proposal of uncertain remedies for the world educational crisis, a crisis which can no longer be dealt with piecemeal. Grasping the international dimension of education and putting it forward for recognition and integration into national structures appeared to us to be a basic and continuing purpose of the review, for the reason that, while it may be taken for granted that educationalists, research workers, teachers, and decision-makers in a given country know about their own work and achievements, they may lack the more comprehensive and diversified view of the world of education provided by an international synopsis Thus with *Prospects* it is hoped that the international approach will complement and stimulate, by information about what is happening, being created or being abandoned elsewhere, the national one. This mutual enrichment, both receptive and rigorous, constitutes the review's modest contribution to a freely chosen and freely conducted world dialogue, without propaganda but based on reasoning and evaluation of achievements, and to the new philosophy of co-operation which will be the key to a new world communication and information order.

As a review dealing with overall problems, innovation and interdisciplinarity, and first and foremost as a review of education, *Prospects* has made it a policy to publish texts written by specialists from the most varied ideological and cultural backgrounds, and to give them complete freedom of expression on matters within their competence, without forbidden subjects or ideas. This policy has two consequences, first, that *Prospects* reflects as fully as possible the current state of educational thinking and experience throughout the world in this latter part of the century, and second, that the review is a forum for some of the best-known, and for talented young people. In this way, the world educational scene is not presented in a fragmentary or one-sided way, but as a continuing whole, against a background of the differing approaches and concerns

This particular feature is worth emphasizing for another reason. Although *Prospects* is open to all talents and to all those who have something to offer the international community, it refuses to be a mouthpiece either permanently or on a regular basis for a few well-known names. Specialists from all regions of the world willingly contribute to the journal, but a look at the contents over a fifteen-year period will show that it is rare to see the same name more than two or three times

Potential Readership

Since it does not exclude any field of education, or any approach to the study of education as a social subsystem, the journal is addressed to those who are professionally concerned with education at the international, regional or national level. This means in point of fact all those who, at these different levels, firmly believe that they are the active agents of the major change now taking place in all spheres of human activity, who believe that these spheres are becoming increasingly interdependent and that education should henceforward create and maintain organic relations not only with all the sciences, whether human or natural, but also with political, economic, social and cultural affairs The review is, then, primarily intended for those who have to take decisions on the expansion and renewal of education, national educational planners, those responsible for curricula and methods, staff of teacher training colleges, those in charge of innovative institutions and co-operation programmes, researchers in education—comparatists or not— teachers anxious to keep abreast of knowledge and widen their horizons, and also young people training for a carrier in education.

If *Prospects* applies itself to giving up-to-date and complete information (rather than mere facts) on current trends throughout the world, it is not only to add to the enrichment and refinement of research, but also to stimulate action Properly informed, these categories of readers are on the front line of those who can galvanize politicians into applying the reforms called for by research results

Structure

The adoption of a formula that does not depend on 'special issues', on a single topic, makes it necessary to ensure a great variety in the selection and publication of the articles. Five main sections, reduced to four since 1982, have been tried out during the last fifteen years.

The first, 'Viewpoints and Controversies', includes two or three articles by personalities of international standing in the world of education whose purpose is to elucidate major problems or describe the most recent breakthroughs in a given field of education ; non-educators (anthropologists, economists, political scientists, biologists, philosophers, and so on) are also invited to shed light from their disciplines on education and to trace possible interfaces between the two worlds. While objectivity is required of all our contributors, in the context of full freedom of ideological and political expression, a special feature of this section is the free exchange of views, keen but informed criticism and well-argued if sometimes paradoxical approach. Accepted theory or practice, fashions, new approaches, political aspects of development and/or co-operation and assistance and similar questions are vigorously and variously analysed and called in question. Whether they concern authority, tradition or existing institutional structures, or whether they arise from current events or research work, the aim is to encourage vigilance and discussion.

The second section consists of a 'Dossier' ('Open File') of some seven to ten articles, some theoretical and others case-studies of specific experiences in different countries, reviewing a major theme of current universal interest, not as a juxtaposition of conflicting opinions and experience but as the sum of the complementary efforts made by nations to clarify and solve specific problems which concern both developing and developed countries.

This is followed by 'Trends and Cases', a section in which specialists, or sometimes relatively unknown practitioners, working outside of academic circles, attempt in two or three articles to identify as yet inchoate educational trends or describe concrete achievements in a particular developed or developing country likely to be of interest in other countries where similar or related needs are felt, such as types of new institutions, new developments in the field of curricula and methods, practical innovations, optimal use of resources, and so on.

The last section, 'Book Reviews', introduces selected publications on education throughout the world by means of reviews of individual works or groups of works on a given theme or country. Also, under the heading 'Profiles of Educators', authors present a major personality in the history of education, expound his or her main ideas and sift out what is obsolete in his or her works from what remains living and valid today.

In sum, no problem is left aside. However, a same theme which remains topical or which has seen major developments can be the subject of a new 'Open File' or of a separate book, as was the case with *Learning and Working* or *Media Education*.

The Language Versions

Prospects was launched in 1972 in two language versions : English and French. Since that time, interest and demand have stimulated the appearance of five new language versions : Spanish, Arabic, Chinese, Russian and Bulgarian

To these one must add regular or episodic publication of anthologies by national authorities, which may or may not be linked to Unesco. To name some, anthologies have been published in German, Korean, Hungarian, Italian, Polish, Serbo-Croatian, and Thai.

Other complete language versions are currently under preparation. Unesco's policy is to encourage the publication of the journal first of all in widely spoken languages in order to make it accessible to the widest possible number of readers.

However, we do not by the same token ignore other languages. But financial resources are not sufficient, even though the intellectual content is already available without cost.

I have given a brief description of a relatively young journal, which has obtained the co-operation of academic communities (both institutions and individuals) throughout the world for a shared aim : to change education through the exchange of ideas and experience. But this journal would have been inconceivable without the Organization which created it and which sustains it : Unesco.

Editing Scholarly Journals : International Perspectives

PHILIP G. ALTBACH
Editor, Comparative Education Review

EDITING a scholarly journal requires many skills—judgement, diplomacy, organization and a broader perspective of a field. Editors have considerable responsibility, they must ensure that the journal is published on time and they must ensure that the highest possible standards of quality are reflected in its pages. Editors have considerable power. They not only are the final arbiters of what is published, but by their many individual choices they shape their journals and inevitably have a significant impact on their field. Editors are "gatekeepers" – they choose what is published and thus provide legitimacy to what is printed in their journals.

Editing is a lonely yet highly visible occupation. The journal editor is responsible for what is printed in the journal, but the choices are immediately apparent. Editors typically do not make decisions by themselves since most journals have a refereeing system which involves one or more external reviewers. But ultimate choices are in the hands of the editor, as are the mini-decisions that lead up to the final acceptance or rejection of a manuscript. Choices of external evaluators, of the relevance of submissions and of the timing of publication are part of editorial judgement.

It has been said that editing a scholarly journal is not so much a matter of the time it takes to read manuscripts and make decisions, but rather the constant set of decisions and plans that are part of the editing process. One deadline is inevitably followed by another, and at any one time, several issues are in various stages of preparation Future plans, current problems, and broad visions of a field are all part of the equation. The editor is, thus, never far from the journal The task of journal editing is never done.

A journal which is international in scope faces special problems. Logistics are sometimes difficult due to vagaries of postal systems. Finding suitable evaluators for manuscripts can be perplexing in an international context. The technical side of editing manuscripts written by authors whose first language is not English is sometimes a challenge. Dealing with different norms of editorial interaction is also a problem. While authors in the United States or Britain find it normal to be asked to make substantial revisions in a manuscript and willingly work with editors, contributors from other cultures sometimes find the Anglo-Saxon editorial norms unusual and occasionally inappropriate. Thus, editing an international journal calls for special skills in diplomacy as well as understanding academic norms in many different cultures Yet, editors have a special responsibility to authors in other countries since the major English-language journals hold positions of significant power and authority in the world of scholarship — and with power goes responsibility.

Editors and Knowledge Networks

Editors working in the United States and Britain who edit English-language journals of high scholarly standards are in a position of special power—and responsibility—since they stand at the apex of an international knowledge network. English is the primary language of international scholarly communication and journals in English are the most widely circulated throughout the world. Journals in other languages are at a significant disadvantage in terms of international circulation Furthermore, the large and active academic communities in the English-speaking nations dominate many academic fields. They set the paradigms for reesarch. Journals typically have their largest circulation in the United States, Britain and to a lesser extent Canada and Australia since these nations have large academic communities, relatively affluent libraries and an orientation to research and knowledge dissemination. The "metropolitan" universities dominate not only the circulation of scholarly journals, but they also shape the research agendas for the most part. The major academic journals in most fields are edited in the metropolitan nations and their editors naturally reflect the norms and values of the scholarly communities in these nations. By and large, editorial evaluators come from the metropoles, and most readers are found in these centers as well. It is not surprising that paradigms, methodologies and orientations to research are shaped in the metropoles and alternative perspectives sometimes have difficulty in gaining access to the "mainstream" journals

There is little question that the major English-speaking nations constitute an intellectual center and that much of the rest of the world is, to varying degrees, peripheral. Most key journals are published and edited in the centers. The bulk of both authors and readers are in the central nations The international knowledge networks are dominated by the centers as well There is considerable complexity among the peripheries. The developing nations of the Third World are in a particularly difficult position, as their academic communities are small and their access to publication opportunities is often limited. Yet, many Third World nations use English (or French) as the main scholarly language, and this sometimes makes access somewhat easier. Many of the scholars working in the Third World were trained in the centers and reflect the orientations of the major Western academic systems. Industrialized nations such as Japan, West Germany, Holland and many other find them, to some extent, at the peripheries of the international knowledge system as well, largely because they do not use a major international language for the bulk of their scholarly production. Japan, with a large and active research enterprise, finds that much of its research production does not reach an international audience and there has been a trend to publish journals in English in order to become part of the international knowledge network. In West Germany, similarly, high quality scholarly journals sometimes do not reach an international audience because of language. Increasingly, in Scandinavia and Holland as well as in other parts of the world, scholars write in English and publish in the major internationally circulated journals. The Eastern European nations constitute a special subsection of the network, since Russian is a commonly used language of scholarship, but many of the journals published in the Soviet Union are not internationally circulated. And there is very little knowledge of Russian outside of Eastern Europe.

The international knowledge network has special implications for scholarly editors They must be aware of its parameters in order to understand how they fit into it. Editors concerned with providing opportunities for scholars in many countries and who wish to serve a worldwide academic audience must ensure that scholars in "peripheral" areas have access to the leading journals and special steps must sometimes be taken to ensure equal scholarly access in a network characterized by powerful structural inequalities The balance that journal editors must necessarily have between high standards of quality—and adherence to the scholarly norms of their sponsors—on the one hand and encouraging contributions from "non-mainstream" perspectives on the other is a difficult one For example, articles submitted from outside North America or Britain may not conform to the current fashions in scholarship and might not receive favourable evaluations from the usual set of external reviewers. Editors must be alert to the inbuilt, and often unconscious, biases of reviewers. The selection of reviewers is a key decision for any manuscript, but it is doubly important for articles with a non-mainstream approach. Many Latin American scholars have a different approach to scholarship than that common in North America. The use of dependency theory and, in general, a more radical approach to scholarship, is common and a long historical tradition of writing scholarly essays which are rather different than the usual North American article also exists Thus, the evaluation of scholarship from Latin America may be difficult for North American editors and reviewers, but it is nonetheless that top quality material from Latin America be published in the major internationally circulated scholarly journals. The careful selection of reviewers, an openness to different paradigms of scholarly writing, to alternative methodologies and ideologies are all very important for journal editors

Language

English has become the major language of scholarly discourse in the modern world, yet editors must ensure that they do not use language as a means of excluding otherwise worthwhile articles The issue of language is a complex one. Editors try to ensure that the articles they print are readable and grammatically correct. But too often journals insist on a particular style of presentation that is unrelated to clarity of expression or grammatical correctness Editors must avoid imposing particular canons of language usage, or academic jargon, on authors In many fields, language style passes for substance or otherwise interesting material which does not conform to current standards of expression is rejected. When dealing with authors from different countries and different methodological orientations, editors have a special responsibility to deal carefully with language issues.

Scholarly editors have a responsibility to publish articles written in clear and grammatically correct English. This is sometimes a challenge, since academics, even if their native language is English, are frequently poor writers ! When dealing with scholars writing in English whose first language is not English, the challenge is very significant. Scholarly journals generally have neither the financing nor the facilities for substantive editing for language. The problem of ensuring that access to journals is not eliminated because of language difficulties on the one hand and that the journals themselves have a high standard of English on the other is a particularly difficult one. Working closely with authors whose native language is not English is a difficult, yet frequently rewarding task, since the ideas and data emanating from a variety of national settings are important for a journal.

The question of language is quite complex. The domination of international knowledge communication by English imposes special responsibilities on editors of English language journals. Scholars are forced to write in English in order to gain access to the international knowledge network. Editors, for their parts, must be aware of the linguistic difficulties of many of their authors and must make special efforts to assist scholars from non-English environments to gain access to the major journals Authors, for their part, must endeavour to communicate in clear English and to obtain help, where necessary, to edit for language. Editors must understand that there are varieties of English expression and that these may be appropriate even for scholarly writing. The point of academic journals is to communicate knowledge. They are not arbiters of literary excellence, and while it is clear that articles must be written in understandable English, it is possible to express scholarly information in many ways. The varieties of English used, for example, in South Asia or in Southeast Asia, may differ to some extent from "standard" British or American English, but these linguistic variants are understandable and may be appropriate even in an academic context. The point here is that editors must be open to linguistic variation and that the domination of scholarly communication by English imposes special responsibilities as well as a great deal of power on the editors of the internationally circulated journals.

Norms and Values of Scholarship

Editors worry a great deal about excellence. Their challenge is to publish the best possible journal, to provide leadership in their field and to include only articles that will add significantly to scholarship But excellence is not easily defined and judgement plays a key role. The successful editor has a broad vision, is able to call on relevant expertise and, in the end, has the courage to make decisons that might be controversial Editors must be "international" in their visions but at the same time they live in particular national academic cultures – usually the culture of one of the major metropolitan centers. Their norms and academic values are inevitably dominated by those of their adademic system. For the most part they rely on external evaluators (since most key journals are refereed) who share that academic culture Thus, excellence is defined in terms of a particular academic culture, one that may exclude methodologies, ideas or research from different perspectives.

Editors have a special responsibility to be open to ideas from different scholarly perspectives, and perhaps if necessary to err on the side of breadth even when academic reviewers might reflect a more conservative viewpoint. The fact is that academic styles, values and orientations differ from region to region and editors are seldom able to reflect the range of perspectives. For example, scholarship reflecting a "dependency" perspective that originated in Mexico in the 1960s was not readily accepted in the major English-language journals until more than a decade later. Research from an ethnomethodological perspective had few outlets during the period when statistical research was in vogue. The Latin American "essay style" of scholarship is not well accepted outside that region although it sometimes provides important scholarly insights Although Marxist analysis has increasing acceptance in mainstream scholarly journals, it is still unusual to find articles from this perspective in the major international publications.

Editors must be especially careful to avoid excluding articles of good academic quality because they do not conform to mainstream norms of scholarship. Given the pressures towards conformity—from evaluators, from decision-making boards of directors, and from many readers, the role of the editor might well be a risky one in this respect. Yet, if the academic community is to become truly international and really open to a range of viewpoints, it must transcend parochial pressures on scholarship. The challenge, of course, is to discern quality and excellence as well as to be open to new ideas and perspectives. There is, unfortunately, no easy rule to apply to achieve this goal.

The Editor as Diplomat

Editors must know how to say no without alienating readers and potential future contributors. Since no is said much more frequently than yes – most major international journals in education and the social sciences have rejection rates of around 80 per cent – editors must have considerable diplomatic skill Saying "maybe" is also a necessary skill, since many manuscripts must be sent back to the author for revision, and the task of eliciting a revision based on constructive comments is sometimes a difficult one Presenting the comments of critical external reviewers in a way that can provide constructive input for a revised article is an important skill

Diplomacy is also necessary in dealing with authors in different countries because the norms of academic systems vary and what is standard editorial practice in one country may seem intrusive in another. For example, in some countries authors do not expect to have to revise their submissions—manuscripts are either accepted or rejected. For most of the major international journals, from the United States or Britain, where it is normal for an editor to require major revisions before a manuscript is accepted, standard procedures may come up against the expectations of authors from some countries. The editor must have some understanding of the varying academic styles and frame responses in a way that will soften the blow of possible revisions. Scholars worldwide are open to suggestions for change and improvement, but the editor must frequently work in varying ways with authors from different academic systems Editors do not need to bend to academic norms which are at odds with their standard practice, but much can be accomplished with a carefully worded letter or with a pattern of interaction with contributors from different countries that takes local norms into account.

North-South and East-West

There is very little editorial interaction between the socialist nations of Eastern Europe and the Soviet Union, on the one hand, and the major Western industrialized nations, on the other. Very few articles from Eastern Europe are printed in Western journals, and vice versa There is very little interaction among editors. There are many reasons for this situation. Part of the problem is language, since relatively few scholars in Eastern Europe are in a position to prepare articles in English (or French) and virtually no Western scholars have sufficient facility with Russian or other Eastern European languates to contribute to journals. But the problem goes well beyond language. Ideology plays a significant role. Journals on both sides are often reluctant to accept papers with a very different ideological perspective. The basic canons of scholarship are somewhat different. Perhaps an even greater problem is that manuscripts are seldom submitted across the East-West boundary. In Eastern Europe and the Soviet Union there are direct and indirect pressures against submitting manuscripts to Western journals. In Western countries, the problem is not official pressure but rather lack of awareness or concern, linguistic problems and a feeling that submissions that did not conform to prevailing ideologies would not be accepted. Communications and logistical problems also exist. There is, at present, very little interaction among scholarly editors in East and West and very little information available concerning the culture of decision-making and the orientations of journals in Eastern Europe and the USSR. Scholarly collaboration between East and West is a complex issue at many levels, and the lack of participation in academic communication through journals is an important part of the gulf It is possible that scholarly editors, through informal contacts and increased awareness, might be able to takes some steps towards greater scholarly communication and participation in the knowledge network

North-South scholarly interaction faces different difficulties. There is a great deal of participation, but the terms of the transactions are in general unequal. As noted earlier, Third World nations are in general peripheral to the international knowledge system. Many Third World scholars are trained in the West, and scholarly journals from the industrialised nations are circulated in the Third World, frequently dominating scholarly discourse. Scholarly editors must play a constructive role in helping to make academic transactions between North and South more equal, in assisting in a two-way communication by publishing the work of Third World scholars, and in general by recognizing that there is a need for a more equal interchange of information and knowledge.

While there are challenges to working with authors from a similar social and academic system, the problems of dealing with scholars from very different environments are much greater and require both patience and effort Yet, surmounting the barriers of both East-West and North-South collaboration can yield important results, since the scholarship carried out throughout the world is worth dissemination in the major internationally circulated media

The Editor as Innovator

Not only do scholarly editors ensure that their journals publish the best available material, but they also can provide leadership to a field of study. They can identify new trends, look out for important younger scholars, extend the boundaries of a field both geographically and intellectually. In a sense, the scholarly editor is an intellectual leader—what the editor defines as legitimate knowledge is generally accepted. If an editor is open to manuscripts from beyond the borders, both geographical and intellectual, of established discourse, this can be quite influential. Searching out new ideas can, of course, be risky, since sometimes they do not yield positive results. There are also constraints on editorial judgement. Editors are responsible not only in the long run to a broader academic field and the "invisible college" of readers but more directly in most cases to a board of directors or perhaps to a publisher. If an editor is too far ahead of established scholarship, these powerful decision makers may create difficulties.

The editors of internationally circulated scholarly journals have a special international responsibility. They need to extend the boundaries of discourse to include scholars with diverse and perhaps divergent viewpoints. There is a special need to include research from the Third World and if possible to begin a constructive dialogue with researchers and editors from the socialist nations. The position of the international journals in an international knowledge network characterized by inequalities is particularly important. The differentiation between these journals and those with circulation mainly within national boundaries also needs to be explored In this nexus of relationships, the editor stands at the center.

Vicissitudes of a Scholarly Editor

RALPH M MILLER
Editor, Canadian and International Education

THE changes of circumstance undergone by an editor become more drastic as the size and reputation of the journal become more modest. In a country such as Canada, with almost 35,000 academics scattered across the more than 5,000 kilometres from Vancouver to St. John's, there are a number of journals whose editors never find life monotonous. Among the 70 or more scholarly journals published in Canada, many have fewer than 700 subscribers, and the editors of such journals are virtual mendicants, ever watchful for new sources of funds. The small journals all require substantial subsidization, usually in the form of office space and secretarial assistance. The editors are also a form of subsidy, and the tasks of editing very readily consume much more than the actual released time which a person such as myself may be granted.

Even so, the barest costs of production—printing and mailing—regularly require more than the income from subscriptions, so writing grants applications and concocting special projects with which to attract new sponsors take up a good bit of editorial time. Even though financing a small journal is an incessant struggle, it should not be the main task of the editor. The more important question is whether this struggle to publish produces a journal worth having, and in confronting this question journals—and their editors—must engage in rigorous self-examination.

Above all, journals need quality articles, which means they need a considerable supply of articles and a diligent corps of reviewers. In addition to quality articles, journals also need appropriate articles, and it is the smaller journals, in particular, which need to be mindful of their mandate, as we are competing for the attention of a small, but widely scattered academic community. *Canadian and International Education* must distinguish its publication priorities from those of the *Canadian Journal of Education*, and there are also times when we might be considering articles that would also suit the *Journal of Educational Thought* Perhaps one should not brood too much on these distinctions of mission, for with all the unexpected changes besetting editors a self-induced identity crisis is, at best, an extravagent indulgence However, it is enormously frustrating when a splendid article simply does not suit with editorial needs and policy.

I should first like to comment on a particular concern of journals which purport to be international. I should like to argue that international scholarly communication is of increasing importance in a world in which international relations now weave such a vast and complex web and in which deception and misinformation play such a prominent part. Will Durant once observed that the "ancient Athenians may have believed honesty was the best policy, but they tried everything else first", and mendacity, is now, as much as ever, a tool of diplomacy. Regrettably, it is not just outright falsehoods which we have to contend with, for as the web of international relations has thickened and as the economic activity of the world has become incredibly vast and diverse, we are driven to rely more and more on simplifications, which always involve distortion and omissions. Furthermore, the great variety of available information and our inability to produce complete analyses of complex situations leads to more incompleteness and error.

While not expecting that international scholarly communication can correct this perilous condition of partial information, flawed understanding and deliberate misrepresentation, I do expect that such communication can contribute to sorely needed improvement. I therefore take it to be a responsibility of journals with an international focus to encourage contributions from other countries. Obviously, editors have a very limited capacity to solicit or encourage foreign contributions, but they can at least (1) write to overseas colleagues indicating the kinds of submissions which would be most likely of success, (2) contact foreign graduate students and visiting faculty members, and (3) urge the members of sponsoring or related societies to recruit submissions from their overseas contacts. I trust it is self evident that these suggestions pertain to contacts in Africa, Asia and Latin America rather than in Europe.

While we are getting a few submissions from Third World countries, they are still seriously underrepresented. But if editors seek to improve this imbalance, they must also be prepared to deal with some additional difficulties, for example, a long turn-around time in the mails which makes revision and final correction incredibly tedious. As a further example of the changes which more foreign involvement mean for an editor, I may note that I have just finished the copy editing for a special issue on Chinese education.

Material for this issue was solicited, beginning almost three years ago, by my colleague, Ruth Hayhoe, during a period of several months in China. The bulk of the issue consists of 13 manuscripts from Chinese scholars. In assembling such a body of material it is vain to request adherence to standard styles of documentation—though there is some consistency in the manuscripts. There are many instances of incomplete documentation, and there is no possibility of remedying all the deficiencies. More important, and much more demanding of editorial time, is the task of textual emendation which involves much more than the correction of obvious errors. Above all is the delicate matter of westernizing some turns of phrase and trying to render more aptly a meaning which is suggested by the context but which is not consonant with the writer's words.

Such editorial work goes far beyond what would be done for any article submitted in the regular way, but it is inevitably required (1) when the manuscripts have been solicited and (2) extraordinary funding has been secured to support a special issue. We thus come to another consequence of commitment to an international perspective. A small journal must take particular pains if it wishes to sustain a significant international orientation, particularly to the extent of securing substantial foreign content. When a project such as our impending China issue is in prospect, some early decisions must be made. As it was soon apparent that the volume of Chinese contributions would require more space than a normal issue, and considering that there were additional bibliographical essays which were important to include, we were faced with the need to meet extra costs. Therefore, we began the search for additional funding

Venturing into special issues changes the tasks of editorship in the direction of entrepreneurship, or at least of promotion. The final stage of promotion is the sale of individual copies, for one always hopes that a special issue will be of interest to many persons not on the subscription list, and indeed, a special issue will be a means of picking up new subscribers. Therefore, once the content of the issue is sure and publication is impending, various means should be found for spreading the word, which explains why I have arrived at AERA with a clutch of broadsheets giving tantalizing information about our publication, "Chinese Scholars on Chinese Education"

Turning back to more general concerns of editorship, one of the most difficult problems, for me, is the matter of asking for revisions in manuscripts This problem is not confined to manuscripts submitted overseas, and the problem is in determining how far to go in requesting revisions. Obviously, revisions are only asked for if the article is deemed to be of such interest and to possess such quality of content as to merit publication, and the corollary of this statement is that in asking for revision the editor is, at the very least, indicating a strong possibility of publication. The connection between revision and publication then leads to an awkward situation, for if one asks for very slight revisions, the article is, presumably, almost publishable as it stands, but if one asks for extensive revisions the article stands in greater jeopardy But how does one suggest that an author should undertake considerable additional work knowing that the more such work to be done has the greater chance that it will not be done well enough to meet publication requirements ?

Faced with this dilemma one must accept the possibility that if a writer does make substantial, but unsatisfactory, revisions there will have to be a second request for revision. But we are now on a slippery slope, for no editor should commit him or herself to a policy of "revising until satisfactory," and yet, the decision that a particular attempt at revision is, not only unsatisfactory, but so unsatisfactory that the article should now be rejected, is a more difficult decision than to reject the article in the first place While it may seem obvious that the solution is never to ask for more than minor revisions in an article, the search for interesting articles dealing with significant subjects sometimes requires that consideration be given to articles which need more work. Perhaps this is a problem of smaller journals which have a rejection rate of about two out of three and which are not innundated with submissions. However, I would argue that one of the responsibilities of editorship is the encouragement of new contributors, particularly those who give voice to important issues or who offer new information. Conversely, one of my editorial hates is the well-practised contributor who is technically sound, but tends to write up a safely limited programme of research.

Surely the most helpful change of the past decade for editors, and I think particularly for editors of small journals, is the development of the microprocessor, of increasingly "user-friendly" word processing systems, and the refinement of computerized systems for preparing camera-ready copy. I say particularly for smaller journals because we are now able to send copy to the printer on disk and we virtually complete proof-reading before going to the printer which means that we now omit galley proofs and have far fewer corrections in our blueline and page proofs. Such labour and time-saving procedures are most important when editorial resources are slender and when even small savings are critical to financial security Obviously, microprocessor technology reduces one stage of proof-reading to a vastly simplified search for the kinds of cliches which only computers—perhaps when exercising their artificial intelligence— can make Possibly even more important, the use of word-processing brings the other phases of proof-reading much more under the editor's control, and the turn around time for all the pre-print proof stages now depends upon the organization and human relations within the editorial office. Moreover, this work is much less tedious when assisted by such things as spelling programmes and search procedures.

I submit, further, that most editors who have to work through university printing facilities find that turn-around times for each stage of typesetting are often awkwardly long, especially when journals are competing with the printing of final examinations, calendars, course materials, and multifarious other kinds of university material The lower cost of the university service, as compared to commercial printers, is often gained at the cost of time, so the technology which reduces the stages of preparing copy for printing is an unmitigated boon.

Nor is it only the technical work of publishing which is facilitated by micro-chip technology, for word-processing assists immensely in the process of composition and manuscript preparation. I am not suggesting that a good word-processor makes every writer a genius, for I call to mind that Alvin Toffier has been shovelling [it] out through a word-processor for more than a decade. The megabyte of memory] in the computer cannot make up for mental lapses in the writer, any more than a powerful number-crunching programme can make good statistics out of bad data. But for the thoughtful writer who ranges wisely through his material, the microprocessor greatly reduces the sheer labour of writing and hugely simplifies the work of correction and revision.

Optimistically, one dares to hope that a happy concurrence of appropriate technology and a need for better information from all parts of the world may foster some very significant publishing in which smaller journals may play an important part. The one flaw in this argument, for editors interested in material from the Third World, is that the new technologies are least available in the very countries from which we most wish to have information. I have lately gone through more than twenty submissions from Africa and Asia, not one of which came from a word-processor, whereas I now get more than half of the submissions from North America and Europe through word-processing. Lately, I have even been able to receive a number of large documents through the medium of electronic mail. Improved programmes for transferring from one disk operating system to another, along with increasing standardization of equipment, will vastly increase interaction between writer and editor, virtually eliminating distance and intensely compressing time. Once again, it will be much longer before such developments afford closer linkage with colleagues in the Third World, and indeed, I can see a danger to overseas colleagues. It is quite possible that as information transfer becomes faster and more convenient among colleagues in the industrialized world, editors will be increasingly dismayed by the time and labour needed to recruit material from the Third World.

Therefore, as we advance into the marvellous opportunities afforded by electronic technology, our great challenge will be to keep up communication with those who are largely outside the electronic network, and even more, to seek for, and to support, feasible ways of enabling them to share in the benefits of information technology. We know that in the process of development, or perhaps I should say in the continuation of underdevelopment, unequal access to technology has been of signal importance. Information is so basic to all efforts at improvement, and so much information technology is now available in such compact and low-priced form, that we should be able to foster the spread of truly appropriate information technology, suited to the needs of widely varied countries Should the introduction of information technology be as ill-conceived and as politically and economically expedient as the introduction of most previous "modern" technology, we may well fail to achieve any broad and large benefits from a technology, which I dare to hope, could afford us a great opportunity of valid human development

Knowledge is power, and now we face a huge challenge, for we either accomplish a broad and humane sharing of information technology or, once again, we transmute the hope of development into ever more pervasive inequality and control

Editing Educational Magazines: Some Problems

ALDO VISALBERGHI

It may be of some interest to answer the four questions in relation to my experiences as Editor of a privately owned journal, such as *Scuola e Citta*, as well as of *Ricerca Educativa* a quarterly published by a public research institution.

Both the journals are highly concerned with comparative education and international issues.

Scuola e Citta was founded in 1950 by Ernesto Codignola who had created a few years before in Florence an experimental school called Scuola-Citta "Pestalozzi". Codignola was a majority shareholder of the publishing house "La Nuova Italia", which took on the charge of the new monthly journal and has maintained it until now.

From the beginning, *Scuola e Citta* has had a very representative international Board of Consultants, including scholars such as Washburne, Parkhurst, Lawerys, Debesse, and Meylan.

After the death of Codignola, editors such as Borghi, Santoni-Rugiu, and from 1976 myself with two co-editors continued a tradition of large international openness and of foreign authors' collaboration, even if a majority of the published papers had a general theoretical nature or reported Italian experiences.

Scuola e Citta is printed monthly in some 6000 copies and for what I know it produces slight losses rather than profits for the publishing house which nevertheless continues to sustain it without interfering with the editorial choices because it considers it an important prestige factor.

Ricerca Educativa is the official bulletin of the European Centre of Education (CEDE), a research institution located in Frascati, near Rome, governed by a Council appointed by elective bodies such as the National University Council and the National Council of Researches. I am the editor of this quarterly magazine, because I am the President of CEDE.

A peculiar feature of *Ricerca Educativa* is the strict link with the research activities of CEDE itself, most of which are international in their essence and in their organization, as part of IEA surveys of quantitative and qualitative (or mixed) nature (such as SISS, Written Composition, Computer Education, Preprimary Education), or of CERI-OECD research projects (such as ESIP, on environment education in the schools), or of UNESCO (such as CODIESEE activity in elementary education). From one-half to two-thirds of the papers are background studies (chiefly qualitative), intermediate and final reports (both quantitative and qualitative), reports on particular aspects or problems related to the research mentioned above, or to some others such as IRIS (Initiatives and Researches on Informatics in the Schools), or DILIS (Didactics of Mother-tongue and Foreign Literatures), or EDINT (Intercultural Education). Also the latter research projects have an important component of international cooperation

Therefore, the review has a natural comparative nature based on the essentially comparative character of the researches carried on in the Centre. Besides, most of the other articles are by foreign authors, such as Husen, King, Marklun, Mitter, Postlethwaite, Holmberg and others. Most contributions are published in the original language, with abstracts in Italian and English In addition, the quarterly publishes an annex dedicated to the activities of SICESE

The answers to four questions presented to us may be sketchily summarized as follows :

(a) The editing of both magazines presents the problem of finding and maintaining contacts, having good translations, reviewing foreign literature. The latter problem has not been satisfactorily solved because of a shortage of funding and of competent collaborators

(b) Decision-making about the authors and the type of papers to publish is formally a collective activity of the editing board, but *de facto* is chiefly a task of the editor, co-editors and editors-in-chief, who largely utilize external suggestions coming—in the case of *Ricerca Educativa* — chiefly from the staff of CEDE

(c) Scholarly journals can very seldom sustain themselves financially, as it has already been said about *Scuola e Citta*. *Ricerca Educativa* covers one-fourth of its costs by subscriptions, but it must be said 400 copies are sent free of charge abroad to the foreign educational research institutions that we know.

(d) The problem of funding may slightly improve in the future, but not be solved : the good will of the publishing house (for *Scuola e Citta*) will remain a pre-condition, hopefully not conditioning the editorial policies, and the public funding of CEDE will be the most consistent source of oxygen for *Ricerca Educativa*.

Some evidence exists of a renewed interest for education, chiefly for the *quality* of education, in the contemporary world, and this seems to imply also a diffuse demand for useful educational research, largely including its international or comparative dimension. Therefore it is also possible that scholarly journals in the educational field cannot only survive or slightly improve, but even develop consistently in quality and quantity, also with the aid of growing informational and informatized international nets. At least we can entertain such a hope.

'Education' in Newspapers

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A SMALL study was conducted to find out the type of coverage 'education' received in India's leading English dailies. The newspapers selected for the purpose were : *The Hindustan Times*, *The Hindu*, *Indian Express*, *The Times of India*, *The Statesman* and *The Tribune*. The time-period covered by the study was August-November 1985. The sampling of the study was done on stratified random basis. The choice of the time had some significance, i e. the academic session was on (schools and colleges open in July) and the framing of a new education policy had been declared by the Government of India as one of its priorities and, therefore, it was assumed that the national dailies would provide a forum for discussion or, at least, give greater coverage to educational news than is done otherwise. Also, the variety of news covered would help one to appreciate the typology of educational news that interested the print media and may be one could thereby discern also the weightages being given to different news items. Besides, being a status study, it was possible to view it as a prognostic work.

Methodology

As part of the study each newspaper was read separately and its educational news coverage dealt with under broadheads, datewise. The news itself was divided into two parts, i.e. investigative and informative. Under the investigative category only those news items were considered which appeared to give conclusions as a result of newspaper staff efforts. The other part pertained to news which was generated either because political leadership had announced new policies or passed new Acts whether at State or Centre level. As a measure of public participation in the activities of education, 'Letters to Editor' were considered an index.

Similarly, newspapers' involvement in education was assessed through its editorials or the articles on education they carried. The placement of an article itself had some significance.

For example, a lead article was one which was printed on the centre-spread and was placed by the side of the editorial The second index was the degree and extent to which it carried discussions or debates on education It was possible to have an idea about the type of news which the newspapers gave a preponderant attention and neglected others which had equal or perhaps more importance. To illustrate, whether or not international collaboration in education or new courses of study merited any mention by a given newspaper. It was also an indication of the information level of the staff detailed for educational coverage. Similarly, the depth of the news content could be measured by the coverage a news item received. The sweep and depth of a single news item could lend itself to interpretative comments.

The nature of Indian society is amenable to countless indepth studies but its love for political news is legendary Somehow this love makes us one of the most politicised people in the world. Political moves and machinations delight us in no small measure and our leisure hours are mostly devoted to political discussions whether local or national. I wanted to find out whether it had some empirical evidence as well. Therefore, a few items on education like teachers' demands, elections, associations' activities, etc. were selected for interpretation. Indian students, more particularly university level students are divided on party lines, i.e. they are the student wings of the national political parties. Few countries can boast of this arrangement and cultivation Even such countries which have passed through a colonial past do not organise students' activities on these lines and surely seldom are students so pampered as to appear an autonomous society. What is the newspaper support and approval for this social order ? Local dailies might give an entirely different picture but the national dailies could surely help us analyse this phenomenon.

Next to defence, perhaps education consumes the maximum national efforts. Teachers and students put together constitute around 40 per cent of our population. In terms of monetary allocations education gets twice the money any single sector receives and if the invisible costs are also added one could discern the reason for political attention which education must attract. No surprise then if other countries also feel interested in India's educational efforts. For example, why else would American Government invite Indian students for further training or the British Council sponsor courses for studies in English language and literature ? Several other countries take similar or equal interest but probably from some other angle e.g. the Nigerian or Ethiopian interest in Indian education lies not so much in its support as in the quality of its end-products. There are numerous contours to these designs, therefore it became necessary to find out how do our newspapers feel about these interests. In other words, the present study could help us analyse the degree of seriousness the national dailies attach to these facts of life As 'eyes and ears' of the people, are our newspapers noticing these sensitive areas of national concern ?

As part of the analysis I wanted to see whether the total number of a newspaper pages had any correlation with the news items on education. In other words, did the bulkier newspapers have more news than the less bulkier ones ? Two more points were given due consideration. How evenhanded was the treatment meted out to students or teachers , was their any particular preference or none whatever ? Similarly, stage-wise, did school education receive more attention than college education or vice versa.

It was considered possible to analyse educational news as it appeared on different pages because we all know that the front page news has a greater weightage than the third page or the centre-spread items carry more respect than others. Placement of a news item has, therefore, its own value and importance.

Having explained the rationale behind the selection of items for analysis, a few hypotheses need also be mentioned because no study can be conducted without hunches, as it were. It is generally believed that education does not interest the newspaper world, except when either certain malpractices have to be reported or some interested party approaches a newspaper for coverage of an activity or incident In other words, the adage 'no news is good news' holds good for education as well. Doubts are often expressed about the quality of news reported alongside the competence of the reporter. The academics allege that no specialists are detailed to cover education and that except for a few national dailies the newspapers generally do not have educational correspondents. The implications of this allegation are obvious to bear further repetition.

The Analysis

Month-wise analysis has been attempted here.

August

Under the broad category of investigative stories the reporting was so meagre that one could even doubt whether newspapers took much interest in them. It is possible that for fear of future litigation they avoided publishing such stories. Besides the reasons of disinterest, the area of reporting may also have its own significance. Administrative failures and malpractices attracted the attention of the newspapers. Whereas *Indian Express* could print four stories, *The Statesman* did not publish any. *The Times of India* had three stories to its credit, followed by *The Hindustan Times* and *The Tribune* with two each and *The Hindu* barely one. These so-called investigative stories related to misdeeds or malfunctioning of institutions of higher learning and those too of the nation's capital alone as though elsewhere the academics were very honest or efficient or both. At least one thing is clear, both in the bias of reporting and the educational ladder which received notice, that newspapers have not found it necessary to investigate what goes on in the field of education in the country outside Delhi. Perhaps regional papers behave differently. Why should not newspapers find elementary, secondary or nursery or kindergarten stages equally interesting is not easy to explain. But surely there is an answer to this question as well.

Before we analyse the nature of educational reporting as such, a few remarks are warranted at this stage. It is understandable that the place of printing of an item in a newspaper has a direct bearing on the nature of the item itself. The local biases apart, one is hard up to explain why only students' elections or teachers' strikes or demands receive greater weightages than other items concerning education. Similarly, it is difficult to give reasons why higher education or propaganda items should get a good deal of coverage.

The month of August was flooded with seasonal news like students' elections in Delhi University. This month and the activities carried on in this period also set the tone for the coming academic session. It is, therefore, understandable that the capital's student elections should receive so much coverage and even front page reporting besides occasional photographs of electioneering which one generally associates with national or state elections. The highest frequency of news item concerning education was found in the area of 'students activities'. Detailed reporting on canvassing, groups within students and their possible election promises, etc. found maximum coverage. Happy faces of winning candidates peered across front page photographs. The election aftermath with its detailed analysis of group affiliations also received wide notice. It was only reasonable to expect *The Hindustan Times* and *The Times of India* to compete with each other in this regard. But other Delhi-based papers were not all that enthusiastic. For example, *Indian Express* and *The Statesman* found student activities far less attractive than the announcement of new plans or institutional activities. *The Hindu* showed very little interest in his area, reporting barely two items in a month and those too were not about Delhi University

One could try to assess the degree of newspapers' involvement in education by trying to see how many times does it receive editorial notice. *The Tribune* carried five editorials, followed by *The Hindustan Times* anc *The Statesman* with two each. Whereas *The Times of India* and *The Hindu* took editorial notice one time each and *Indian Express* did not carry a single editorial on education.

The other indices of newspapers' interest in education can be gauged by the number of edit-page articles they carry, followed by non-edit-page articles. One could put *The Hindustan Times* and *The Tribune* at the top as they published four each in a month, followed by *Indian Express*, *The Statesman* and *The Hindu* with two each. *The Times of India* lagged far behind others as it could find space for one only. Among educational articles published elsewhere in the newspapers, *The Hindu* led others by printing ten with *The Hindustan Times* and *Indian Express* publishing only one each and the others failing to do so even once.

Letters to editors are yet another index of the type of interest a newspaper and its readership has in any area. *The Hindustan Times* and *Indian Express* carried six letters each, followed by *The Hindu* with five. *The Times of India* and *The Tribune* printed four and three, respectively, with *The Statesman* carrying only two.

If one could compare the weightages being given to students and teachers' activities in the newspapers, the students would always fare better. In this case too they led by more than hundred per cent in all newspapers, except in *The Hindu* where equal regard was shown to both. Teachers' Unions and their elections received rare notices and several indepth stories appeared in all national dailies. *The Tribune* led in this regard, giving importance to the activities of teachers in Himachal Pradesh, Punjab and Chandigarh with seven news-items, followed by others with five each. Strikes and protests by teachers and karamcharies were separately considered and it was found that teachers' protests, whether justified or not, did attract a good deal of attention. Once again the capital's teachers dominated the coverage but elsewhere too the teachers were not altogether reticent

The controversy regarding the dismissal of a Vice-chancellor in Bihar was given sufficient coverage by almost all newspapers, excluding *The Tribune* and *The Hindu* although even they carried a small news item each about its occurrence One sadly missed any reporting in the area of international collaboration and educational activities in other countries The UNESCO and the UNICEF were casually mentioned and only *The Statesman* carried both news and views about the educational system elsewhere and collaborative activities, followed by *Indian Express*. Surprisingly *The Hindu* trailed behind others with only a single news item in this area. *The Hindustan Times* and *The Times of India* had, of course, nothing at all to report in this category.

We are all aware how much litigation goes on in the area of education. For one reason or the other teachers approach the courts of law for decisions. *Indian Express* reported five items on litigation, followed by *The Times of India* which carried three, *The Tribune* had two to report and *The Hindu* barely one. Cartoons are another measure of interest in any area. It was good to notice that education also caught the cartoonists' eye *Indian Express* carried two cartoons on educational subjects, followed by one in *The Hindustan Times*. The others carried no cartoons on education The distinctive attainments of teachers found the maximum coverage in *The Hindustan Times*, i.e three items, followed by *The Times of India*, *The Statesman* and *The Tribune* with one each.

September

The month of September was dominated by Delhi University Students' Union activities, followed by Jawaharlal Nehru University's students' activities. These two universities put together received more coverage than all other educational institutions or their staff did. Except for the fact that these two universities are located in the nation's capital there was hardly anything spectacular about the nature of their newsworthiness. Not only did these two universities get frequent mention in the newspapers, a few colleges of Delhi did not lag far behind. In the national context, Calcutta University figured in great frequency—statements and counterstatements by the Chief Minister of West Bengal and the Governor being the basic ingredients of a political struggle of some significance.

Almost all newspapers carried one or two editorials on education. *Indian Express* showed its displeasure at political interference in educational matters. *The Hindustan Times* thought Delhi University Students' Union was a fit topic for an editorial. *The Times of India* carried two editorials—one on new educational policy and the other on Delhi University Teachers' Association. *The Hindu* also came out with two—one being on New Education Policy. *The Tribune* and *The Statesman* acknowledged no topic worthy of their editorial notice

What we generally regard as investigative journalism is of considerable value from the point of view of weightages being given to certain levels and aspects of education by different newspapers. *The Hindustan Times* carried seven stories which fall under this category and all were related to university system as such. Whether the institution was Kashi Vidyapeeth, Nagpur University or Delhi University, they attracted the attention of the newshawks in *The Hindustan Times* Favouritism in appointments, malpractices in examination or administration and misuse of funds were analysed and reported. *The Times of India* reported a single time in the month and that too on Lucknow University examination results. *Indian Express* reported two items only, one on admissions in Ahmedabad University and the other in Gujarat University *The Tribune* had two items, both being on universities in Punjab. *The Statesman* also carried a story on internal strike in a university system *The Hindu* had no such story to report.

Compared with the students, the teachers received less attention in newspapers. The comparative figures in *The Hindustan Times* are 12 and 11 in *The Times of India* 15; and 5; in *Indian Express* 9 and 6, in *The Statesman* 11 and 8; in *The Hindu* 3 and none. Only in *The Tribune* did teachers fare better, that is, 6 to 2. Elections and strikes by Delhi students, whether in JNU or Delhi University, appeared to have been responsible for this imbalance

The Hindu printed maximum letters to editor, i.e. 18 in all, followed by *The Hindustan Times* and *The Tribune*, with five each. Except for *The Statesman* which published only two letters, the rest had four letters each to their credit.

The Hindu also topped the list of publishing the maximum number of articles on education, i.e. 12 in a month. *The Hindustan Times* printed seven, followed by *The Times of India* with four articles. *The Tribune* published one article on education but *Indian Express* and *The Statesman* did not publish any. It is understandable that *The Hindu* should carry that many articles because it has a regular page devoted to it but no reason could be ascribed in the case of *The Hindustan Times* except that it has developed a special liking for education.

All other news items were so meagre that no sensible analysis could be possible For example, all newspapers carried identical reports under the categories : new plans, new acts of legislatures, debates, discussions, etc. and the number did not exceed one or two each. Similarly, under international collaboration the maximum reportage was two and that too in *The Hindustan Times*. None other went beyond one item each.

In the category of edit-page articles, *The Hindu* led by six, followed by *The Hindustan Times* and *The Tribune* with two each. *The Times of India* and *The Statesman* published no article of that level

October

This month was dominated by three major items on the checklist. The first one pertained to discussions and debates which were largely concentrated on the new educational policy—the sources of these discussions were P M 's speeches, seminars and workshops. This debate seemed to have warmed up in this month. Except for *The Hindu* and *The Times of India*, the rest of the papers carried news on this item for more than eight times, with *The Hindustan Times* leading with 13

The other two items were related to students and teachers but here the variations were remarkable. *The Hindustan Times* carried 10 and 9 items each on students and teachers, respectively and this sort of balance was maintained by *Indian Express*, with 8 and 9 and *The Hindu*, with 4 and 3. Where differences in weightages appeared large were *The Times of India* · 11 and 6 ; *The Statesman* : 2 and 9 and *The Tribune* : 5 and 9 The students were in this month protesting against obscene posters and teachers were being asked not to participate in politics or elections by Parent Teacher Associations. The reasons for attracting newspapers' attention appeared quite worthy of the students and teachers because normally they trade in other items of news-gathering Also, teachers were reported for receiving awards, etc. As expected, JNU and and Delhi University teachers continued to receive newspaper attention for their trade union activities as well.

Once again it was apparent that universities and colleges were more in news than schools; and urban centres rated high on news-worthiness than rural areas. Similarly, except for the dismissal of Bihar Vice-chancellors or the appointment of Vice-chancellors, elsewhere teachers of lesser status did not excite the media.

In all editorial notice was taken once by *The Hindustan Times* and *Indian Express* each and only twice by *The Hindu. The Hindu* and *The Tribune* printed 14 and 12 letters each on matters related to education but *The Hindustan Times* printed only one letter, *The Times of India* and *Indian Express* two each and *The Statesman* carried six

The number of edit-page articles published also reveal interesting facts *The Times of India* and *Indian Express* carried no lead articles. In fact *The Times of India* did not print even a single article on education in the whole month whereas *Indian Express* carried one article only. *The Tribune* and *The Statesman* who carried 3 and 7 edit-page articles, respectively printed no other article on education anywhere in the newspapers. *The Hindu* carried four edit-page and eight other articles on education.

In terms of letters to editors, *The Hindu* stood at the top with 14 letters to its credit, followed by *The Tribune* with 12. *The Statesman* carried four and *The Hindustan Times* only one where the other two papers, viz. *The Times of India* and *Indian Express* published two each.

Except for *The Hindustan Times* and *The Times of India* which carried news regarding new plans or activities five and two times, respectively, this matter was ignored by all others completely. However, only *The Times of India* carried one cartoon on education

Almost all newspapers carried one investigative story each on malpractices or corruption in a university or college but *The Tribune* printed three, followed by *The Hindustan Times* and *The Statesman* with two each. Once again nothing apparently was found at the school stage which could merit such attention by any of the national dailies.

The Hindustan Times carried one item on legal news and four items on new courses of studies or institutions. Except for *The Hindu* which had two items on new courses or institutions, all others had nothing to report.

In the last month of the study we continued to see the trends that we had witnessed earlier on. For example, the new educational policy continued to attract print media attention. Letters to editor and lead articles were full of policy content. The newspapers remained regional despite their effort to appear national or international. Very little of international educational news found place in any of the leading national dailies. The UNESCO and its controversies or the Indian stance vis-a-vis the USA was the only international organisation that found any coverage. In other words, the print media did not look beyond the regional boundaries. Also, similarity of news items led one to suspect the possibility of PR work behind such a similarity although such items appeared invariably in the names of 'Our special correspondent'. News regarding teachers, karamcharies or students was seldom appreciative and it gave one hunch that the media were not very favourably inclined towards their activities. Reasonableness of the cause notwithstanding, the hostility in the attitude of the reporters was rarely absent The political overtones and coverage also included education as an item which means whenever P.M. spoke on education or Ministers had anything to do with education the newspapers never missed the opportunity. The coverage betrayed the obvious, i.e. the relative degree of importance the media attached to an individual being reported The absence of investigative items showed that education was not as exciting an area of investigation as politics, films, or the personal lives of criminals were On the whole, education continued to be as insipid a subject as it was before, except for a temporary storm in a proverbial tea-cup because of PM's interest in it The number of items covered or the the space allotted to each also did not give any idea of the importance the newspapers attached to education. A newspaper with a special correspondent on education did not compare very favourably with another that did not have one. The frequency of educational news coverage proved to be an inadequate index for any valid conclusion because frequency had seldom any bearing on space allocation or the page of the report itself

We now present the item-wise analysis of the frequency tabulation

Under the investigative category there appeared very little in the newspapers as a whole. For instance, *The Hindustan Times* carried three pieces, one each on administrative bottlenecks, wrong appointments and financial mismanagement. These pieces pertained to Delhi University or its colleges. *Indian Express* carried just one item on corrupt practices, *The Statesman*, two, *The Tribune*, two ; and *The Hindu*, also two The Bihar University Vice-chancellors and their ways figured even in *The Hindu.*

The maximum frequency of news items pertained to teachers and karamcharies in the university system where in their demands and activities were noticed by the newspapers. *The Times of India* and *The Tribune* carried 13 and 18 items, respectively, followed by *The Statesman*, 11, *The Hindu* and *Indian Express*, seven each and *The Hindustan Times*, five Since national debate on the Ministry's document The Challenge of Education was on, debates and discussions also figured in the newspapers quite frequently. *The Statesman* carried nine items, *The Hindustan Times*, eight; *The Times of India*, five, *Indian Express*, three; *The Tribune*, two, and *The Hindu*, two It was interesting to observe that the newspapers gave their base city the maximum coverage. Except for *The Tribune* and *Indian Express*, none carried edit-page articles on education. Articles on education were carried on other pages of the newspapers. Their frequency was *The Hindu*, 11; *The Statesman*, 4; *The Hindustan Times*, 3; *Indian Express*, 2; and *The Times of India*, 1.

Letters to editors on education had the following frequency--*The Hindu*, 12; *The Hindustan Times*, 9; *The Tribune*, 4, *Indian Express*, 4, *The Times of India*, 3, and *The Statesman*, 2. Regarding new plans and activities, *The Hindustan Times* carried 5 items; *The Times of India*, 3, *Indian Express*, 3; *The Hindu*, 3 and *The Tribune* and *The Statesman* 2 and 1, respectively. Except for *The Hindu*, none carried news regarding any research findings. Mishaps and rewards to teachers also had their votaries. *The Hindustan Times* carried 5; *The Times of India*, 3; *Indian Express*, 2; *The Statesman* and *The Tribune* 2 items each. Mishaps were reported only once by four news dailies, except *The Hindustan Times* and *The Tribune* *The Hindustan Times* was the only daily to carry an educational cartoon. Legal news appeared only once each in *Indian Express* and *The Tribune*.

UNESCO and international news appeared at least four times each in all dailies, with the exception of *The Times of India* and *The Statesman* which carried five items each. The maximum frequency of students' activities was in *The Statesman*, 8; *Indian Express*, 6; *The Tribune*, 4, followed by *The Times of India* and *The Hindustan Times* with two each and none in *The Hindu*. It was an unusually quiet period because most of the colleges and universities had Pooja holidays in October and November.

The fact that our national dailies are also regional or local can be seen by their handling of news items Also their bias towards higher education is more than apparent Surprisingly the major problems of education which confront the nation had very little news coverage in the dailies. Is it because the English dailies feel that national problems are not their problems or just that they would not sell is difficult to decide ? But a study like the present one is both revealing and instructive It explains the phenomenon of the great social divide.

Book Reviews

Student Teaching

S.B. Mohanty, Ashish Publishing House, New Delhi, 1987, pp. 100, Rs. 100.00

'STUDENT teaching', incorporating the concepts of internship and cooperating teachers, is typically an American term conveying much more than what is intended by the terms like 'practice teaching', 'block teaching', 'stray teaching practice', etc. usually prevalent in the conventional form of teacher training in our country. To equate student teaching with any of these terms, which the author of the book under review largely seems to do, is nothing but undermining its meaning, purpose and scope. Since the author's main concern has been cut and paste patchwork in bringing out this book, he has obviously failed to project any clear-cut philosophy or at least a distinct definition of the concept. The structure of the book also belies original contribution as it depends on large-scale abstraction/culling of material from available sources, related or unrelated, mainly from the 'Survey of Research in Education' and similar other reports to make it the bulk of its content which appears more in the form of an annotated bibliography than any kind of critical note-taking expected of any creative work. The closing of almost every chapter with an annotation of the author's own papers and localized personal observations or suggestions also does the work more harm than good However, the book serves one good purpose. It makes available a comprehensive bibliography on teacher education which, although full of mistakes, is yet useful for research workers and teachers, and in this context the book is a welcome addition to the store of information on teacher training.

Student teaching indeed came to be accepted as a fad in the mid-60's with the emergence of four-year integrated teacher education courses and a modified model of one-year traditional teacher training course in the Regional Colleges of Education (NCERT). The onus of introducing student teaching, as a comprehensive measure of quality improvement, in teacher training was also shared by the Department of Teacher Education (NCERT) which conducted a series of national/regional workshops-cum-courses on student teaching and evaluation over a number of years to ultimately pool fruits of the country-wide debate, discussions and experiences in the form of a Handbook published in 1974 ; revised and reprinted in 1985. The author of the book under review does list this title in the bibliography but does not refer to or examine it to further the interest of his book or that of the concept. In the absence of any critical analysis either of the topic under discussion or of the works listed or referred, this book has apparently received a kind of shoddy treatment to reveal as though it has been pushed through in a great hurry. It appears to be an outcome of the residue of the materials collected for the author's doctoral level thesis, with footnotes here and there, which in addition suffers from many typographical and even language errors That being so, the book not only contains many loose ends but also lacks proper focus besides being inconsistent and even incoherent at many a place. There is also the least evidence of any effort at connecting different chapters in a common thread because abruptness seems to be with hall-mark of beginning as well as ending of every chapter.

Any book on student teaching appearing after the announcement of the new education policy is naturally expected to highlight the need of developing language capabilities and communication skills as an integral part not only of schooling but also of teacher training. It is this aspect which needs to be urgently and earnestly attended to in order to leave a positive impact on the quality of schooling which in turn ought to be the very elan vital of student teaching. The book under review simply fails to touch upon this dimension Not does it incorporate research component, value-orientation, code of conduct, etc. considered to be very important aspects of student teaching. These are in fact obvious delimitations of a work produced merely for the sake of production However, despite apparent lacunae, it tends to present a few tips for organising practice teaching under the caption 'A Plan of Action' as part of certain chapters which could serve some useful purpose. In order that the book becomes more meaningful and purposive, its revised edition, if any, has to be carefully planned.

D.N. KHOSLA

Using English in Science and Technology

R.K. Singh, Prakash Book Depot, Bareilly, 1988, pp 256, Rs 45.00

DEVELOPING language and communication skills is among the first priorities of the new education policy. These skills, if properly and adequately inculcated in the learning-teaching community, can not only make the learning-teaching process more tangible and effective but also lead to the process of realizing educational excellence as the end-product of schooling. Though its need has been felt only recently as part of the policy decision-making at national level, much water seems to have flown already in the task of developing these skills and capabilities specially as an inbuilt ingredient of the 'English for Special Purposes' casually imparted to in-service English teachers by the Central Institute of English and Foreign Languages and its constituent units at different places in the country.

Intervention of the British Council in making ESP programmes, whether conducted by individuals or institutions, meaningfully purposive to the interests of the target-groups is obviously noteworthy

The book under review, as the author claims, is an outcome of his three-year LSP teaching experiment in the Indian School of Mines and two workshops arranged in collaboration with the British Council. The main thrust of the book is on using English in science and technology than on developing reporting skills in matters scientific and technological in the parlance of popular journalism It is an irony of the situation that most scientific and technological research remains glued to the library bookshelves mainly because of its being imprisoned in the jargon of technical writing little amenable to popular design of dissemination

The merit of the book, however, lies in its thorough-going analysis of what constitutes the fundamental tips, elements and skills for writing in the traditional formal way, be it research, experimentation or any other form of description. The triple order of competencies —technical, organisational and linguistic—and the three-stage process model of writing—prewriting, actual writing and post-writing—is applicable equally to science and technology as to other subjects So also are the techniques of referencing, note-taking, paraphrasing, summarising, defining, explanation, classification, graphical presentation, generalisation, etc. besides the use of grammer in the formal and informal forms of written expression and description of objects, events, processes, narratives, etc. What is particularly important by way of special contribution of this book is the large-scale inclusion or imposition of examples and exercises drawn from science and technology to illustrate different forms of writing. What is even more important is the fact that various steps, strategies and skills suggested in respect of using English in science and technology are well-nigh useful in other disciplines of study as well

Being the outcome of a kind of experimental work, the book obviously suffers from certain limitations. Prima facie, it does not reflect what actually constitutes the philosophy of scientific and technological writing or reporting or at least what makes ESP in science and technology, let alone inculcation of appropriate skills in students of these subjects at higher level. Nor does it suggest any kind of LSP course-content or its graduated doses to make suitable inroads into the process of schooling at any stage. Naturally, the book in its present form aims at providing a kind of preliminary orientation in the art of using English for certain specific purposes. Yet, despite obvious shortfalls in its organisation and approach, and innumerable typographical and printing errors intolerable and in excusable in an English teaching work, the book makes a valueable addition to literature on English Learning.

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